THE PRACTICE PROFILE OF OCCUPATIONAL THERAPISTS DELIVERING WORK PRACTICE SERVICES IN SOUTH AFRICA

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DECLARATION

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ABSTRACT

Background: Over the last decade, industrialised countries have experienced a significant increase in the cost of sickness, disability and employment injury benefits. Concurrently, an increase has been noticed in the need for work rehabilitation due to reasons such as disability as a result of an aging work-force, and work-related stress. Occupational therapists play a crucial role in providing work practice services, but little is known about the type of services they provide or the settings in which they are offered. The aim of this study was to describe the practice profile of occupational therapists delivering services within the field of work practice in South Africa to determine whether the work-related needs of the South African population are being met and to inform future planning of services.

Methods: A descriptive cross-sectional study was undertaken. A self-administered survey was distributed to occupational therapists in the field of work practice within South Africa. Convenience and snowball sampling were used to target as many participants as possible. A survey based on the literature was developed and underwent pilot testing. Content and face validity was determined by a panel of experts who participated in a focus group. Instrument utility was established with occupational therapists who did not work in this field. Frequencies and proportions were determined for categorical data. Chi-square tests of association were undertaken to determine whether there were any significant associations between identified variables. A p-value of < 0.05 was considered significant. Open-ended questions were post coded.

Results: A total of 109 participants submitted survey responses. A high number of participants frequently focused on once-off evaluations, worksite interventions and functional capacity evaluations (FCEs). A large percentage (72%) did not offer services involving treatment and rehabilitation. Of those who offered treatment and rehabilitation, 25% frequently focused on work conditioning, joint protection and re-integration programmes at a clinic/practice. Only 20% frequently offered ergonomics and joint protection/conservation programmes, as part of prevention services. Additional work-practice services that were identified were employer training, life-skills training and disability management services. Chi-squared tests indicated a significant association between evaluation services offered directly and indirectly ($p<0.001$). There were also significant associations between the frequency of using vocational evaluation units (private sector) and the frequency of conducting FCEs ($P<0.001$).

Conclusion: The results indicate an imbalance in the type of work practice services provided, with a bias towards evaluation services as opposed to intervention services, involving treatment/rehabilitation and prevention/education and training. Few participants worked in public sector settings. This apparent imbalance in services provided by

occupational therapists, and the settings in which they are provided, requires further investigation in light of the pending Road Accident Benefit Scheme and National Health Insurance system.

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DEFINITION OF TERMS

Body mechanics/back education training: Body mechanics/back education training, also commonly referred to as back schools, is an intervention comprising physical exercises, education and skills programmes. Lessons are usually provided to groups of individuals suffering with back pain. Such training is provided in occupational settings and could be offered as part of a multidisciplinary programme (Heymans et al., 2005).

Case Management: Case management is described as a process requiring collaboration with key stakeholders (e.g. supervisors, health care practitioners, employers, union members, HR managers and/or any other party involved in the case) involving assessment, planning, implementing, coordinating, monitoring and evaluating the options and services required to meet an individual's health and human service needs (Jensen, 2012).

Cognitive Behavioural Approach: A cognitive behavioural approach is an intervention which aims to reduce negative emotions, thoughts and behaviours such as reduced activity levels as a result of pain behaviour and unnecessary reliance on medication. Intervention including a cognitive behavioural approach aims to divert a participant's focus on their pain and disability and rather focus on an increase of function (Nachemson, 1999).

Ergonomic Assessment: The main goal of an ergonomic assessment is fitting the work task to the employee in a specific work setting, and represents a proactive approach to the management of injuries. The role of ergonomics is to establish residual work capabilities of injured workers, developing ergonomically-tailored physical training programs to improve their capabilities, developing work schedules that facilitate a return to work and making changes to the workplace to accommodate the employee's return to a full job role, if indicated (Shrey & Hursh, 1999).

Facilitating early return to work: Facilitating an early return to work; also referred to as *Return to work co-ordination or work re-integration* is the facilitation of an injured employee back to work. It involves a high level of co-ordination within the worksite, communication with key stakeholders, and a co-ordination of tasks among external services such as health care and rehabilitation providers to ensure optimal return to work of the injured worker (Shrey & Hursh, 1999).

Functional Capacity evaluation (FCE): An FCE is a comprehensive assessment which assists in determining the type and nature of functional impairment and the degree to which physical and psychological factors are compromised in a person (Chamberlain et al., 2009).

Health promotion and wellness programmes: These programmes are aimed at promoting health and wellbeing. They enable individuals to make informed and healthy choices about their health, and involve education, which results in learning new skills and information to assist in redeveloping a healthy lifestyle, or alternative strategies to achieve a better quality of life (Christiansen, Baum & Bass-Haugen, 2005).

Industrial rehabilitation: Industrial rehabilitation is provided by occupational therapists and involves the administration of functional capacity to workers who sustained injuries/illnesses, developing accurate job descriptions, performing objective job analyses, providing work conditioning and on-site therapy services, and identifying reasonable accommodations to achieve a successful job match (Bade & Eckert, 2008).

Job Analysis: Job analysis (JA) is another commonly employed assessment and vocational process used to gather information and recommend work accommodation in vocational rehabilitation. It involves an on-site assessment and analysis of job tasks and comprises the analysis of the requirement of work e.g. physical, sensory and cognitive behavioural, workstation design, equipment used and the general work environment (Innes & Straker, 2002).

Job Counseling: Job counseling, also referred to as career counseling, career guidance and career coaching, focuses on issues relating to change of career, the further development of a client's career, exploration of various options when considering career change and other related issues. On the international front, the terms career guidance, career counseling and counselling are widely used by policy-makers, academics and practitioners (Ertelt et al., 2012).

Joint protection training: Joint protection, also referred to as energy conservation, involves the teaching of ergonomic and joint protection principles such as minimising effort to perform work tasks, distributing loads evenly over several joints, using the proximal or strongest joints, avoiding awkward postures which may contribute to deformities and balancing work tasks and rest breaks (Cordery & Rocchi, 1998).

Manual Handling: Manual Handling is defined as the transporting or supporting of any load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force (*Health and Safety Executive (HSE). n.d.*).

Medical-legal assessment: A medical-legal evaluation is specifically administered for legislative purposes as well as litigation, compensation and insurance purposes. It is often associated with a functional capacity evaluation; however, the assessment may only focus in part, or fully, on the worker's ability to undertake specific work tasks (Innes & Straker, 2002).

Occupational Rehabilitation: Occupational rehabilitation involves a process of assessing an injured or ill worker's capacity and treating the functional restrictions and tolerance levels identified by means of graded activities and functional work tasks, with the aim to retain or return the individual to employment and achieving their pre-injury level of performance (Innes & Straker, 2002).

Pain Management: Pain management services form an integral part of work rehabilitation services and focus on addressing both physical and psychological aspects of pain. Various treatment approaches exist, varying from basic advice to resume activities as soon as possible, pharmacological interventions, or accessing rehabilitation centres focused on intensive multidisciplinary treatment (Sullivan et al., 2005).

Placement Services: The placement services model provides supported employment for clients with permanent impairment due to severe mental illness and who attend a community mental-health centre, or are part of a case-management service. Practical assistance is usually provided by a supported employment specialist to find and maintain competitive employment (Becker & Drake, 1994).

Practice Profile is a compilation of information allowing definition and evaluation of any of several parameters of health-care delivery (Boisseau & Foom, 1978).

Prevention: Prevention in the context of work commonly comprises strategies which prevent injury or disability in the workplace. It includes, but is not restricted to, the removal of environmental barriers and the use of adaptive equipment to ensure independence in occupational performance (Bade & Eckert, 2008).

Pre-vocational programme: Pre-vocational programmes offered by occupational therapists focuses on the training and development of personal and work skills to prepare a client for work. The duration of these programmes varies and is based on the specific goals of the programme (Lloyd and Basset, 1997; Rouleau, Saint-Jean, Stip, et al., 2009).

Reasonable accommodation: When employees cannot perform the full aspect of their job role due to injury or illness, reasonable accommodations are considered. This requires the development of an interactive process between the employee, employer and health professional (where applicable) to problem-solve, identify and implement appropriate

accommodations. Modifications, assistive devices and adjustments to the work environment allow a person with a disability to participate more equally within the workplace (Schreuer et al., 2009).

Rehabilitation back to work/ Work rehabilitation: The major components of interventions focusing on rehabilitation back to work comprise an evaluation of a person's impairments/functional abilities, fitness for work, followed by a workplace assessment (Chamberlain et al., 2009).

Stress management training: Stress management training is provided by occupational therapists to improve an individual's ability to manage and cope with both psychological and physiological reactions to stimuli. In work settings, strategies focusing on stress management are defined as techniques that are developed to assist employees to deal more effectively with symptoms of stress (Lawrence, 1996).

Supported Employment (SE): Supported employment is an approach which promotes the inclusion of persons with disabilities in work. It has been defined as "competitive employment" in an integrated setting with on-going support services for people with the most severe disabilities (Cook & Burke, 2002).

Surveillance/discomfort surveys: Surveillance/discomfort surveys are described as a method of information-gathering in order to locate and eliminate a problem in a population or group by investigating patterns and the distribution of positive findings, and are administered as part of the ergonomic process (Silverstein, 1990).

Vocational assessment/evaluation: Vocational assessment is defined as the global appraisal of an individual's work/training background, general functional capacities, and social/behavioural characteristics. It usually includes an evaluation of medical factors, psychological make-up, educational background, social behaviours, attitudes, values, work skills and abilities (Chan et al., 1997).

Vocational counselling: Vocational counselling is an area of intervention which can be done with individuals through discussion and guidance. Vocational counselling can occur during the different rehabilitation phases. For instance, in an earlier phase, information gathered from the different assessment processes (standardised and paper-pencil testing) can be used to help individuals to understand their interests, values, needs and direction of their vocational pursuit. In addition, vocational counselling can be used to educate the individuals in understanding the availability, specific nature, strengths and limitations of a job requirement (e.g. job analysis, labour market survey, and transferrable skills analysis). Another important process includes the soft-skills that can assist a client to secure a job. Such soft-skills include the job application

process (e.g. resume writing, covering-letter writing, interviewing skills, and disability disclosure (Lee, n.d.).

Vocational Rehabilitation: Vocational rehabilitation is a rehabilitation strategy that aims at enabling disabled persons to secure, retain and advance in suitable employment and thereby further their integration or re-integration into society (Innes, 1997).

Work conditioning programmes: Work conditioning programmes aim to facilitate return to work of injured employees by increasing aspects such as strength, endurance, flexibility and cardiovascular fitness, and may also include the simulation of work or functional tasks in a supervised environment such as a clinic or gymnasium (Schonstein et al., 2002).

Work hardening: Treatment that is usually designed to improve an individual's strength, endurance, movement, flexibility, stability, and motor control biomechanical performance levels and psychosocial aspects as they relate to physical and psychosocial requirements of work (Chamberlain et al., 2009).

Work rehabilitation: Work rehabilitation is a service, which involves a structured program of graded physical conditioning, strengthening exercises and functional tasks in conjunction with real or simulated job activities. The treatment is tailored to improve the individual's cardiopulmonary, neuro musculoskeletal, biomechanical performance levels and psychosocial aspects relevant to work (Bade & Eckert, 2008).

Work retraining: Work retraining in the context of vocational rehabilitation exposes an injured/disabled individual to the process of learning a new skillset or trade. It is often seen as a change in profession, rather than a progression in the participant's career (Tuomi et al., 2001).

Workplace modification/ Job modification: Workplace accommodations, also referred to as worksite accommodation and/or job modification, includes the adjustment of a job, job site and/or the manner in which a job task is performed to allow a person with an injury or disability to work independently (Shrey & Hursh, 1999).

Workplace assessment (WPA): Workplace assessments focus on the interaction between the employee, the employee's job and their working environment. WPAs, specifically administered at the workplace, offer an overview of the physical environment, job demands and working conditions in order to identify suitable duties (Innes & Straker, 2002).

Work practice services: Work practice services are used as an umbrella term for the service provision of occupational health and safety or injury prevention and work rehabilitation

services by occupational therapists. It may also include placement and support at work (Deen, Gibson, & Strong, 2002).

Workstation assessment: The term workstation assessment refers to a workplace assessment and job analysis which involved the specific evaluation of computer or administrative desk-based work (Innes & Straker, 2002).

Work simulation: Work simulation is commonly administered in clinical settings. It involves an injured worker performing a series of activities or tasks which simulate a variety of work requirements. In essence, the aim is to replicate the work task as much as possible in a clinical environment (Innes & Straker, 2002).

LIST OF ACRONYMS

AOTA	American Occupational Therapy Association
BTE	Baltimore Therapeutic Equipment
CBT	Cognitive Behavioural Therapy
CPD	Continuing Professional Development
DOL	Department of Labour
EBP	Evidence Based Practice
EEA	Employment Equity Act
FCE	Functional Capacity Evaluation
HPCSA	Health Professions Council of South Africa
MODAPTS	Modular Arrangement of Pre-determined time standards
NGO	Non-Governmental Organisation
NHI	National Health Insurance
OTASA	Occupational Therapy Association of South Africa
RTW	Return to Work
SE	Supported Employment
STATSSA	Statistics South Africa
VR	Vocational Rehabilitation
WHO	World Health Organisation
WPA	Work Place Assessment
WP	Work Practice
WWII	World War Two

CHAPTER 1: INTRODUCTION

1.1 Contextual background

Over the last decade, industrialised countries in general have experienced a significant increase in the cost of sickness, disability and employment-injury benefits, with a reported increase in applications for sickness certificates and disability benefits of between 15% and 30% (Gobelet, Luthi, Al-Khodairy & Chamberlain, 2007). In South Africa, medical claims paid by the Department of Labour as a result of injuries sustained at work, during the 2011/2012 financial year alone amounted to R1 882 372 383 (Compensation Fund Annual Report, 2012), indicating that work-related injuries are a considerable expense.

Concurrently, an increase has been noticed in the need for work rehabilitation over the past decades as a result of work disability for reasons such as an aging work force and occupational stress (World Health Organisation (WHO), 2000). When an individual's ability to work is hampered, there are not only social, but also economic consequences for both the individual and society. As such, reduced work functioning is not only considered to be a medical problem, but also a socioeconomic one (Kielhofner, 1993; Lechner, Roth & Straaton, 1991).

According to a recent report by the Department of Labour, South Africa has an unemployment rate of 24.7%, and it is a concern that half of the unemployed (65%) have been out of work for more than a year (Department of Labour, 2014). This will naturally result in a large percentage of the population claiming social grants to sustain their cost of living. With poverty levels reported at 45.5% in 2011 and 44% of the population claiming social grants (Statistics SA, 2014), a considerable burden has been placed on the South African economy.

The head of Solidarity's occupational health and safety division, Paul Mardon, reported that 5% of the South African gross national product in 2009 revealed a loss of R121.2 billion in economic activity specifically as a result of occupational injuries. According to Mardon, the increasingly disabled workforce is contributed to through the absence of statutory obligations by employers and compensation structures to provide rehabilitation and re-integration programmes back to work. This inadvertently drives a higher number of disabled workers into poverty (Solidarity, 2010). A study investigating poverty and injury in South Africa indicated that employees from low-income households are more likely to suffer from accidents at work, compared to those from higher income households (Le R Booysen, 2002). It is, furthermore, problematic for unskilled workers to secure other employment after sustaining an injury, which is more likely to result in unemployment and lead to a direct loss of income.

Apart from the financial losses to the employer and employee, an increase in sickness applications as a result of injuries sustained at work, burdens the present work force (Gobelet et al., 2007) as it naturally implies that there are fewer available workers. Understandably, this negatively impacts the daily operations and output of any business, increasing strain on the employer. Fewer employees at work, suggests that those employees who are present, have to perform more than their normal, expected workload. However, an increased workload may then lead to employees suffering from work-related stress if they cannot meet business deadlines, which again is likely to trigger further absenteeism (Carayon, Smith & Haims, 1999). For this reason greater attention should be given to the prevention of injuries, in the first instance, as this will naturally lessen the burden on businesses caused by high employee absenteeism (Maher, 2000). Secondly, but equally important, employees must have access to suitable work rehabilitation services early on, with the primary aim of avoiding permanent incapacity to work as a result of an injury or illness sustained at work (Bade & Eckert, 2008).

Injury prevention and work rehabilitation services are typically provided by occupational therapists specialising in work practice (Bade & Eckert, 2008). The outcomes of such services may focus on the re-integration of an injured worker back to work by making job accommodations, promoting health and wellness in the workplace, implementing return to work programmes, offering case-management services with the view to implementing disability management strategies and offering transitional work options, to name but a few (Shrey & Hursh, 1999).

1.2 Background to the Study

South Africa's Constitution (The Constitution of the Republic of South Africa, 1996), underscores the right of people with disabilities to live and work in a society free from discrimination. Employers are guided by the Code of Good Practice, outlined in the Labour Relations Act of 1995 (Employment Equity Act no. 55, of 1998 : Code of Good Practice on the employment of people with disabilities. 2002) and the Employment Equity Act of 1998 (Employment Equity Act, No. 55 of 1998, 2013), regarding the recruitment, selection, training, retention and placement of both existing and promising applicants who are, or become, disabled or ill.

These legal changes, have led to a renewed focus on the role of occupational therapists rendering services in the field of work practice (WP), especially with respect to offering assistance and guidance to implement legislation (Strasheim & Buys, 1996; Strasheim, 2001). Consequently, many occupational therapists have revisited their scope of practice in view of the unique contribution of their skillset when facilitating return to employment of people with disabilities (Buys & van Biljon, 1998). Occupational Therapists' distinct contribution in WP service provision includes their knowledge of disease, disability, occupational analysis and

engagement in occupation. Therefore, bearing in mind their expertise in physical, mental health, cognitive and perceptual health impairments, occupational therapists' role in WP, is invaluable (Bade & Eckert, 2008). Considering the potentially crucial role of occupational therapists in providing WP services and those that facilitate return to work, and prevent or reduce injuries, it is important to establish the types of WP services and the types of settings in which such services are being offered in order to determine whether they are aligned with the needs of the South African population.

Apart from a South African survey reported in 2004 which involved a very small sample group of occupational therapists who were regarded as experts in the field of WP (Buys & van Biljon, 2007), to date no formal study has been undertaken to gain an understanding of the scope of WP services provided by occupational therapists in South Africa and/or the types of settings in which these services are provided. This information is needed to determine whether the work-related needs of the South African population are being met and to inform future planning of services.

1.3 Research Question

The research question for this study was: What does the practice profile of occupational therapists delivering services within the field of work practice comprise in South Africa? 'Practice Profile' is defined as a compilation of information allowing definition and evaluation of any or several parameters of health care delivery (Boisseau & Foom, 1978). In the context of this study, the practice profile of WP occupational therapists focused on the collection of information reflecting the demographic profile and parameters of WP services (involving evaluation, treatment/rehabilitation, prevention and follow-up services) provided by South African occupational therapists, as well as the types of settings in which these services are provided. Additionally, information was collected regarding occupational therapists' focus on various WP outcomes as well as sources of information used to inform their service provision. The foregoing is necessary to ascertain whether WP outcomes prioritised by South African occupational therapists are relevant, taking the purpose of WP services into consideration and whether the sources of information used are appropriate to inform service delivery.

1.4 Aim of study

To describe the practice profile of occupational therapists that deliver services within the field of WP in South Africa.

1.5 Objectives of Study

The objectives of the study were:

- To describe the demographic profile of occupational therapists in WP, such as experience, postgraduate qualifications, institutions qualified, and preferred continuing professional development courses attended by occupational therapists rendering services in the WP field
- To establish the different settings (for example clinics, workplaces, corporate companies) in which WP services are delivered
- To ascertain whether the focus of WP service provision is similar or different in private and public sector settings
- To describe the services (evaluation, treatment/rehabilitation, prevention/education/training and follow up services) provided by occupational therapists working in this field to detect any imbalance in the total package of services offered
- To establish if there are significant differences between evaluation services and services focusing on treatment/rehabilitation, as both are usually the most frequently offered
- To determine the sources of information used by occupational therapists in WP to inform their practice decisions, for example searching and reviewing specific literature, attending interest groups, journal clubs and specialist courses locally or abroad.

1.6 Summary

The last few decades have seen a rise in applications for sickness, disability and employment injury benefits as a result of injuries sustained at work along with an increasing need for work rehabilitation due to work disability resulting from an aging work force and occupational stress. Occupational therapists play a crucial role in the provision of WP services due to their unique knowledge and skills, which include knowledge of disease, disability, the process of occupational analysis and engagement in occupation. The provision of WP services assist to rehabilitate injured workers back to work, which in turn helps to lessen the resultant socioeconomic burden placed on the South African work force

To date no formal study has been undertaken to investigate the types of WP services provided by occupational therapists in South Africa and the settings in which they are provided. The study aimed to describe the practice profile of occupational therapists who deliver services within the field of WP in South Africa in order to gauge the extent to which they are addressing the needs of the South African population while also determining the types of WP services that should be further developed to address those needs.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter describes the evolvement of WP services and the provision of such services by occupational therapists internationally and within South Africa. The influence of South Africa's legislative framework on the development of WP services is briefly explored as this has provided South African occupational therapists with opportunities to develop and expand WP services locally. The different uses of WP terminology locally and internationally are reviewed and the types of WP services provided by occupational therapists are described under the areas of prevention, assessment and rehabilitation. Lastly, the outcomes typically associated with WP interventions are described.

A comprehensive search was conducted of the following databases: Pubmed, Medline, EBSCHOhost, CINAHL, Gochrane Library, PsychINFO, Africa-wide information, Sabinet legal, Google Scholar and OT Seeker. Search terms included occupational therapy, work practice, industrial rehabilitation, vocational rehabilitation, occupational rehabilitation, work rehabilitation, functional capacity evaluations, work hardening, work conditioning, ergonomics, injury prevention, occupational health, case management, supported employment, disability, job coaching, reasonable accommodation, return to work, sick absence, occupational injuries, job analysis, medico-legal assessment, work simulation, workplace assessment, employment equity, labour relations act, Code of Good Practice, technical assistance guidelines and Code of Good Practice for the employment of people with disabilities, South Africa's constitution, return to work outcomes and vocational rehabilitation outcomes.

2.2 Trends in occupational therapy work practice services

This section describes the evolvement of WP services and the development of such services internationally. This is followed by a further discussion of the evolvement of WP services in South Africa and the development of such services by occupational therapists locally.

2.2.1 International trends

It is well documented that 'work' has been considered an important and central component of practice since the establishment of the occupational therapy profession, although the role and focus of occupational therapists in WP has not always been transparent (Lohman & Peyton, 1997; Ambrosi & Schwartz, 1995). The occupational therapists' role during the early 1900's, initially focused on keeping patients in hospital by engaging them in meaningful activities, while their interest in work and sustaining a good quality of life were also considered. World War I, in 1918, created other needs as injured soldiers required rehabilitation. Occupational

Therapists, referred to as 'civilian aides' and/or 'reconstruction aides' during this time, started working alongside soldiers, providing vocational re-education and training skills with the main goal of returning the injured individual to active participation in life (Reed, 2006; Pedretti, 1996). Although vocational intervention services started to develop during this period, it was only after World War II (WWII) that occupational therapists started to focus specifically on work and the improvement of function (Reed & Peters, 2006). Occupational therapists started moving from a holistic approach to a reductionist philosophy. Reductionism involved a scientific process of understanding function and analysing small, discreet parts and, as such, there was an increasing focus on the development of techniques, treatment modalities and technology to address function (Pedretti, 1996). Although, during the profession's initial growth, occupational therapists recognised the importance of developing interventions to rehabilitate individuals who sustained injuries in their places of work, the focus of intervention has not always been on the return to employment (Ambrosi & Schwartz, 1995). Gainful employment has only received greater attention since the mid-1940's (Reed & Peters, 2006; Harvey-Krefting, 1985). The occupational therapy professions' initial focus on the medical model of intervention has been, in part, argued as one of the reasons for the delayed involvement to rehabilitate and re-integrate injured workers back to work (Lohman & Peyton, 1997; Cromwell, 1985; Harvey-Krefting, 1985). This was due to the diminished focus on the humanistic philosophy between the 1940s and 1960s. However, since the profession started to adopt a biopsychosocial approach to intervention during the 1980s, the important link in matching injured workers with the demands of their workplace was recognised as an inherent part of the profession's philosophy (Ellexson, 1985). In countries such as North America, practitioners started publicising their role in the assessment and rehabilitation of workers who sustained injuries in their places of work in the 1980s. It was also around this time, that occupational therapists were urged to formally document their role in the field of WP (Ellexson, 1985; Hook, 1985).

In the early 1990s, the main focus of WP services involved rehabilitation aimed at the restoration of employees' physical capabilities as well as their functional ability to work. Such programmes were referred to as *work conditioning* (Helm-Williams, 1993). The relevance of multidisciplinary, clinic-based approaches to the treatment and rehabilitation of injured workers was also recognised during this time period and included a combination of *work simulation* and exercises to address the tolerance levels of an injured worker (Wyrick et al., 1991). During this time period, therapy, which focused on the treatment of work-related injuries, was referred to as *work hardening, return to work, industrial rehabilitation, occupational rehabilitation* and/or *work rehabilitation programs* (Jundt & King, 1999). Although different terms were used and variations existed in both the method of service provision and treatment protocols, the main aim of all these services was similar, namely to facilitate the process of returning the injured employee to work. Most of the work rehabilitation programmes were closely associated with a hospital or rehabilitation clinic, and key facilitators included occupational therapists and

physiotherapists. During this time period, new trends emerged in the management of injured workers with services incorporating ergonomic interventions, disability management programmes and case management, with the view to looking beyond a medical approach in treating work-related injuries. However, WP services continued to embrace a biopsychosocial approach in the management of the injured worker (King, 1999). This approach includes the treatment of cardiopulmonary, neuro-musculoskeletal functions, biomechanical performance components, as well as psychosocial aspects as they relate to the demands of work (Bade & Eckert, 2008). Jundt and King (1999) noticed the important role that occupational therapists played in the prevention and rehabilitation of work-related injuries and stressed the significance of gaining a better understanding of the demographic profile of work rehabilitation programmes in the United States. The authors considered such a study necessary in order to better market these services to prospective clients. A sample of 300 occupational therapists throughout the United States was randomly selected from the American Occupational Therapy Association's Work Programs Special Interest Section mailing list (N = 1250). Seventy-seven surveys were returned. Although no formal response rate was reported, based on the figures provided, the study yielded a response rate of 25.7%. Their survey results identified that 50% of work rehabilitation programmes, were mainly associated with hospitals. A trend was, however, noticed in the delivery of work-related interventions directly at an employee's site of work. Most of these worksite interventions focused on prevention and assessment of the injured worker, rather than rehabilitation at the employee's place of work (Jundt & King, 1999). A limitation of the study was, however, a poor response rate, suggesting potential bias.

Towards the end of the 20th century it was anticipated that services focusing on prevention, assessment and services based directly at the workplace would increase (Jundt & King, 1999) due to evidence in the literature indicating the efficacy of on-site interventions in reducing personal and societal costs in work-related injuries (Deen, Gibson & Strong, 2002). It was also consistent with international trends, which indicated a similar focus (Jundt & King, 1999; Shrey & Hursh, 1999). Some authors (Jacobs, Pratt & Dyson, 1997), however, felt that rehabilitation would remain the key area of service delivery within the workplace. Part of the problem was the cost involved in implementing prevention services and the reluctance of employers to invest in the management of injuries in their places of work.

A survey of 22 occupational therapists, providing WP services in Hong Kong concluded that services mostly still focused on clinic-based approaches (Lo, 2000). One of the main reasons was attributed to the costly investment in equipment focused on *work simulation* and assessment due to a shift in focus from using arts and crafts, which required non-structured skills training, to structured programmes involving the use of standardised assessment tools and treatment techniques. The study was however limited to *work rehabilitation programmes* provided in the Hong Kong Hospital authority and did not reflect the nature of work rehabilitation programmes provided across Hong Kong. The authors were of the view that a

more representative profile would have been obtained, should other settings outside of the Hong Kong Hospital Authority (e.g. non-governmental organisations) have been included in the study.

An Australian-based study was undertaken to describe WP services provided by occupational therapists since no profile of occupational therapy practice in the management of work-related injuries existed at the time (Deen, Gibson & Strong, 2002). Most of the services provided at clinics or rehabilitation centres were also provided in the injured individual's place of work. The delivery of services, such as prevention, assessment and rehabilitation directly at the workplace, was recognised as an increasing and core component of WP services in Australia. This was due to an international trend to minimise costs by preventing and reducing work-related injuries. This trend is understandable, when considering that the workplace is often the primary venue where an injury occurs. A benefit of providing interventions coupled directly with the workplace is cost saving, as it is not necessary to simulate areas of work that are often required within a clinic or rehabilitation setting. Furthermore, it allows the therapist to identify and address risk factors, which cannot otherwise be attended to directly in a clinic/rehabilitation centre (Innes & Straker, 2002).

A comparison of studies in the United States and Australia reveals several similarities in the provision of prevention and assessment services. More specifically, the provision of *back education programmes, ergonomic interventions, job analyses* and *risk assessments* were evident. It is, however, noted that work-related services, such as *work rehabilitation* and *work conditioning*, were considered part of the core services provided by North American therapists but were less common among Australian Occupational Therapists (McGuire, 1995). Part of the reason, was that Australian respondents' focus of rehabilitation was aimed at the use of appropriate duties within the employee's place of work, thus improving tolerances to work within the working environment, rather than utilising clinic/rehabilitation centres, which simulates aspects of the workplace (Innes, 1997). The foregoing approach by North American occupational therapists is likely to be more costly as opposed to delivering the services directly at a client's place of work. This suggests that the context of a country appears to drive WP trends and services offered.

2.2.2 South African trends

The role of occupational therapists in the delivery of WP services has developed significantly since the profession's engagement in this field of service delivery in South Africa. Training in the delivery of WP services reportedly commenced in the early 1940s at the University of the Witwatersrand, when the use of the word 'work therapy' was documented in one of the first publications in the treatment of psychotic patients (Borowitz & Kretzmer, 1959). This was the first mention of work-related occupational therapy services (Borowitz & Kretzmer, 1959).

It was, however, only around 1963 that the role of occupational therapy, in what was then referred to as *vocational rehabilitation* in South Africa, became embedded in the profession's scope of practice (Shipham, 1995). This time period was benchmarked by research undertaken in the field of work assessment and the well-known American term '*industrial rehabilitation*' was used to refer to work-related tasks to treat patients in psychiatric hospitals and schools (Shipham, 1995; Fordyce, 1967). According to the literature, occupational therapists' concern with WP developed to such an extent that many were actively providing services such as work preparation programmes, group programmes and support groups to assist with placements of injured workers in the early 1990s (Du Toit & van Heerden, 1987; Shipham, 1984; Beukes, 1983). Continuing developments in the field, in addition to the ever-increasing importance of WP services offered by occupational therapists, were further shaped by legislative changes following the acceptance of South Africa's first democratic constitution (The Constitution of the Republic of South Africa, 1996), when the rights of people with disabilities to live in a society free from discrimination was endorsed. This is further discussed in the subsequent section.

2.3 Influence of South Africa's legislative framework

South African's legislative framework has offered a way for occupational therapists to assist injured workers to secure gainful employment through the delivery of WP services. Employers are guided by the Code of Good Practice, outlined in the Labour Relations Act of 1995 (Labour Relations Act, No. 66 of 1995, 2013) and the Employment Equity Act (EEA) of 1998 (Employment Equity Act, No. 55 of 1998, 2013) regarding the recruitment, selection, training, retention and placement of both existing and promising applicants who were, or became, disabled or ill. This legislation protects employees and job seekers with disabilities against unfair discrimination and allows equal opportunities to apply for work. The Code of Good Practice guidelines (Employment Equity Act no. 55, of 1998: Code of Good Practice on the employment of people with disabilities. 2002) furthermore ensures that procedures are followed for the reasonable and appropriate treatment of disabled workers. It also guides employers to adhere to appropriate procedures and ensure that an injured or ill employee has been accommodated at work, whether by modifying their work duties, offering assistive technology and/or by providing alternative employment opportunities, rather than merely dismissing an employee based on their injury or illness. The above legislation strengthened occupational therapists' positions to rehabilitate injured/ill employees back to work. Occupational therapists were also better positioned to assist the employer by indicating how duties should be modified, what assistive technology may be required in the workplace and identifying alternative work for the injured/ill individual (Buys & van Biljon, 2007; Strasheim & Buys, 1996).

At the same time, the Skills Development Act of 1998 (Skills Development Act, No, 97 of 1998, 2012), which provides funding for the development of skills, learner-ships and simulated training opportunities for people with disabilities became a useful tool for occupational therapists to develop supported employment services through access to the Sector Education Training Authorities (SETAs). The Act allowed opportunities for occupational therapists to source and match suitable work for disabled individuals, expose individuals to work experience through learner-ships and further develop their skills, while providing ongoing support through job-coaching in the workplace (Strasheim, 2001; Strasheim & Buys, 1996). The Code of Good Practice (Employment Equity Act no. 55, of 1998: Code of Good Practice on the employment of people with disabilities, 2002) and the Technical Assistance Guidelines (Department of Labour: Technical assistance guidelines on the employment of people with disabilities, 2002) on the employment of people with disabilities were subsequently introduced. These guidelines were further intended to create awareness of the contributions people with disabilities can make and to encourage employers to fully use the skills of disabled persons. Together with the Technical Assistance Guidelines, the Code of Good Practice provided a guide for the implementation of reasonable accommodation in the workplace. More specifically, these guidelines provided an opportunity for disabled workers to apply for vacancies, which allowed the individual to be considered for a specific position above another worker. Furthermore, it obliged the employer to consider accommodations in the workplace, such as modified duties and assistive technology, to enable the disabled worked to perform their duties. Occupational therapists were ideally positioned to support the employer by providing specific advice regarding suitable accommodations that could be considered in the workplace to accommodate the disabled worker, thereby re-enforcing the occupational therapists' valuable role to rehabilitate and support disabled workers at their place of work (van Niekerk et al., 2011; Strasheim, 2001). These promising changes led to a renewed focus on the role of occupational therapists rendering services in the field of WP, especially with respect to the assistance and guidance, among other services, required to implement legislation (Strasheim, 2001; Strasheim & Buys, 1996). Occupational therapists were ideally positioned, through their knowledge of disease, disability, the process of activity analysis and understanding of occupational performance (Bade & Eckert, 2008), to support employers to accommodate disabled individuals by providing advice regarding a disabled worker's abilities, reasonable accommodations required in the workplace and how such accommodations could be implemented (Strasheim & Buys, 1996).

2.4 Work practice terminology

The literature in WP is scattered across a number of databases. Terms are used interchangeably and universally acceptable terms do not seem to exist. For the purpose of this study, the most relevant definition of terms was used. While some of the terms may be outdated, in these cases the meaning of the terms did not change.

Several articles have been published about the role that occupational therapists play within WP, often also referred to as *vocational rehabilitation* (VR) in South Africa (Buys & Casteleijn, 2007; Buys & van Biljon, 2007; Buys & van Biljon, 1998). Available literature seems to use the term *work practice* and *vocational rehabilitation* interchangeably within the field of occupational therapy. In America and the United Kingdom the provision of WP service was described as *vocational rehabilitation* (American Occupational Therapy Association (AOTA), 1980), *work hardening* (Cullum, 1997; Matheson et al., 1985) and *work rehabilitation* (Brewin & Hazell, 2004).

Buys and Casteleijn (2007) cited literature by Binet, Grisdale and Gearing(1963), Borowitz and Kretzmer (1959), Fordyce (1967) and Harrisberg (1963) for the earlier use of terminology in South Africa, such as *work re-orientation programmes*, *industrial therapy* and *work therapy*. Similar to the United States, terminology such as *work rehabilitation* was used in the 1980s in South Africa; however, it was only after 1989 that the term *vocational rehabilitation* became the preferred terminology in occupational therapy literature internationally, describing a variety of services in the WP field (British, 2000; Selander, 1999). The literature provides no specific definition for *vocational rehabilitation*, partly because it entails a variety of services, which cannot necessarily be delivered in isolation. However, a largely accepted description by Innes (1997) notes that vocational rehabilitation is a rehabilitation strategy that aims to enable a disabled person to secure, retain and advance in suitable employment and thereby become integrated or re-integrated into society. It is important to note that, as determined by the literature search, WP is a much broader term than *vocational rehabilitation* and encompasses a wide array of services (Deen, Gibson & Strong, 2002). Buys and Casteleijn (2007) indicated, however, that despite suggestions made to use the term WP in South Africa, no consensus has been reached in the use of this terminology, as the term *vocational rehabilitation* is still used by occupational therapy education at some South African institutions. Another term used regularly in the past decade is '*work related practice*' (Adam et al., 2010; Larson & Miller, 2005; Strong, Baptiste & Salvatori, 2003), used frequently to describe work-related services provided by both occupational therapists and physiotherapists. It does not, however, specifically describe the range of services provided by occupational therapists.

Despite the continued use of the term *vocational rehabilitation*, and more recent terminology such as *work related practice*, the term *work practice* encompasses the wide array of services provided by occupational therapists and is increasingly cited in occupational therapy literature. Studies which explored WP services in the United States, Australia and Hong Kong respectively have referred to WP as an umbrella term to describe services provided in areas such as occupational health, safety and prevention and work rehabilitation (Deen, Gibson & Strong, 2002; Lo, 2000; Jundt & King, 1999). These studies highlighted three broad service-areas within the field of WP, namely (i) Prevention; (ii) Assessment and (iii) Rehabilitation. For

the purpose of this study, the use of WP as a blanket term will be used to describe services provided by occupational therapists in South Africa and the type of WP services classified as prevention, assessment and rehabilitation. These are discussed in more detail below.

2.5 Types of Work practice services

Specific types of WP services as discussed in the literature are described under the sub-headings prevention, assessment and rehabilitation. (Refer to Table 1 for a list of specific services discussed in this section).

Table 1: Work practice area and - sub services

Work Practice Area	*Work Practice sub-service*
Prevention	Body Mechanics/Back Education
	Manual Handling
	Ergonomic interventions
	Stress Management
	Joint Protection
	Wellness/Fitness Programmes
	Surveillance and Discomfort Surveys
Assessment	Workplace based assessments
	Functional capacity evaluations
	Work Simulation
	Vocational Evaluation
	Medical Legal Assessments
Rehabilitation	Work Conditioning
	Work hardening
	Vocational Services (counseling, work skills training/development)
	Pain Management
	Job Modification
	Return to work co-ordination
	Work site accommodations
	Supported Employment
	Return to work

The list of WP services discussed should not be viewed as exhaustive, as the literature in many instances does not discuss certain WP services in isolation. Rather, these services are often discussed as an inherent part of WP service provision and described in more detail under the sub-headings of prevention, assessment and rehabilitation.

2.5.1 Prevention

The Occupational Therapy Practice Framework (AOTA, 2002) refers to three prevention strategies namely primary, secondary and tertiary prevention. Primary prevention strategies focus on individuals who present without complaints or symptoms. These strategies are implemented to avoid the occurrence of symptoms, in the first instance, which could result in

an injury, illness or disability. Secondary prevention strategies focus on those individuals who present with complaints and symptoms and are therefore at risk of developing an illness, injury or disability if left unattended. Lastly, tertiary prevention strategies are implemented to address or limit the consequences of an individual already presenting with an injury, illness or disability (Bade & Eckert, 2008).

Bade and Eckert (2008) argued that occupational therapists are ideally positioned to equip individuals to make better choices about their health, educating individuals with the aim of learning new skills and offering consultation services with the view of providing information to alter lifestyle choices and achieve an improved quality of life. Specific services which are provided as part of prevention include *body mechanics/back education, manual handling training, ergonomics, stress management, joint protection, wellness/fitness programmes* as well as *surveillance and discomfort surveys* (Deen, Gibson & Strong, 2002; Lo, 2000; King, Tuckwell & Barrett, 1998). A literature search involving the respective prevention services mentioned, produced limited information about *surveillance and discomfort surveys, stress-management training*, as *well as wellness/fitness programmes* offered as stand-alone prevention services by occupational therapists in WP. *Surveillance and discomfort surveys* form an integral part of *ergonomic assessments* and are therefore administered as part of the ergonomic process (Westgaard, 2000). Similarly, *stress management training* usually forms part of the *work rehabilitation* package and is rarely discussed as a stand-alone WP intervention in the literature. The focus on the provision of *wellness/fitness programmes* by occupational therapists as part of prevention services has shifted over the past decade as the emphasis of WP interventions has also moved towards an increasing focus on prevention (Deen, Gibson & Strong, 2002; Jundt & King, 1999).

Body mechanics, also referred to as *back education training* or *back schools*, are interventions comprising of physical exercises, education and skills programmes (Heymans et al., 2005). Lessons are usually provided to groups of individuals suffering with back pain. Such training is provided in occupational settings and could be offered as part of a multidisciplinary programme (Heymans et al., 2005). A systematic review which investigated the effectiveness of occupational therapy intervention in individuals with work-related lower-back injury and illnesses indicated that there was insufficient evidence to support the benefit of exercises, in alleviating short-term pain, as part of back school training. The results did, however, indicate that a holistic, client-centred approach should be used by occupational therapists for the management of lower-back injuries (Snodgrass, 2011). It should be noted that *body mechanics* and *back care training* could be offered as part of prevention and/or rehabilitation services. In the first instance, the aim is to prevent, minimise or limit back-pain symptoms at work, whilst training, which forms part of rehabilitation, requires active involvement of the individual with the view to address psychosocial needs as well as physical impairments caused by the back symptoms (Snodgrass, 2011; Bade & Eckert, 2008).

Manual Handling is defined as the transporting or supporting of any load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or bodily force (*Health and Safety Executive (HSE). n.d.*). This intervention forms part of prevention services with the main aim of equipping individuals to handle loads appropriately and therefore reduce the risk of injury at work. It is usually one of the most common causes of injury and results in musculoskeletal complaints such as back pain, upper and lower limb pain/disorders, joint pain and/or repetitive strain injuries (HSE.n.d). Such services may be offered at the workplace and/or an occupational therapist's practice (Deen, Gibson & Strong, 2002).

Ergonomic interventions can be offered as both prevention and/or a rehabilitation service, subject to the focus of the intervention. The goal of such an intervention is typically to reduce or minimise an employee's exposure to risk factors, which can contribute to musculoskeletal disorders such as repetitive strain injuries (Bade & Eckert, 2008). Offered as part of prevention services, an ergonomic assessment is undertaken to fit the work task to the employee in a specific work setting. It represents a proactive approach to the management of injuries. When offered as part of rehabilitation, the role of ergonomics is to establish residual work capabilities of injured workers, developing ergonomically tailored physical training programs to improve their capabilities, developing work schedules that facilitate return to work and making changes to the workplace to accommodate the employee to return to his/her full job role if indicated (Shrey and Hursh, 1999).

In order to optimise work performance, it is also necessary to deal with the psychosocial aspects, which may adversely affect employee productivity. Occupational therapists' training in both physical and psychological aspects of health, disability and life-skills give the profession a useful perspective on psychosocial factors influencing work, which other professions are not equipped to undertake (Bade & Eckert, 2008). *Stress management training* is provided by occupational therapists to improve an individual's ability to manage and cope with both psychological and physiological reactions to stimuli. In work settings, strategies focusing on stress management are defined as techniques that are developed to assist employees to deal with symptoms of stress more effectively (Lawrence, 1996) A critical review of stress management in work settings, indicated that a variety of techniques were used such as muscle relaxation, biofeedback, meditation, cognitive-behavioural skills and a combination of these techniques. The finding of the study indicated that muscle relaxation and cognitive behavioural skills and/or combinations of two or more techniques were the most frequently used (Lawrence, 1996) in reducing work stress.

Joint protection involves the teaching of ergonomic and joint protection principles such as minimising effort to perform work tasks, distributing loads evenly over several joints, using the proximal or strongest joints, avoiding awkward postures which may contribute to deformities

and balancing work tasks and rest breaks (Cordery & Rocchi, 1998). A systematic review of six articles published from 2007 to 2013, evaluated the efficacy of interventions used by occupational therapists for adults with rheumatoid arthritis. The findings indicated that there was sufficient evidence to use patient education through joint protection, among other strategies (Ekelman et al., 2014).

Occupational therapists are active role players in the delivery of *health promotion and wellness programmes*. Such programmes focus on the acquisition of new skills with the view to equip the employee with the ability to make informed decisions about their health and may include individuals with or without a disability. It typically includes information about life style choices and strategies to improve their general health and quality of life (Christiansen, Baum & Bass-Haugen, 2005).

Surveillance/discomfort surveys are described as a method of information gathering in order to locate and eliminate a problem in a population or group by investigating patterns and the distribution of positive findings (Silverstein, 1990) and are administered as part of the ergonomic process. As an example, surveillance/discomfort surveys administered to a group of desktop workers may highlight that most of the workers complain of wrist pain. If most of the workers seem to complain of the same symptoms it suggests that further investigation is required to ascertain why the workers complain of wrist pain. Once this investigation is undertaken an ergonomic modification (e.g. change of keyboard/ postural correction at work desk) may be required to prevent symptoms from becoming a chronic problem. Silverstein (1990) noted that this type of intervention is a crucial component of ergonomics to prevent disease or injury in the workplace.

2.5.2 Assessment

The assessment of employees who sustained injuries, requires the occupational therapist to evaluate the employee's ability to return to his/her pre-injury job role, or alternatively, to determine the employee's general capacity to perform alternative work. This is an essential part of the work rehabilitation process (Innes & Straker, 1998). A literature review of work assessments indicated that studies primarily focus on *functional capacity evaluations* (FCEs) and associated assessments administered in clinics. A study by Innes and Straker (2002) indicated that work assessments are commonly divided into two main categories, namely FCEs and *workplace (or worksite) based assessments* (WPA). Within each of these two categories, other forms of work related assessments form part of sub categories of the main categories and/or overlapped them. This section focuses on the discussion of *workplace-based assessments, FCEs, work simulation, vocational assessments* and *medical legal assessments.*

FCEs are well-known in the field of WP and are commonly administered as the first step of a work rehabilitation programme. An FCE is defined as a comprehensive assessment, which assists to determine the type and nature of functional impairment, and the degree to which physical and psychological factors are impaired in a person being assessed (Chamberlain et al., 2009; Snook & Irvine, 1969). Once an individual's abilities and limitations are identified, a specific rehabilitation programme is formulated with the aim of assisting the employee to resume or secure employment (Innes & Straker, 2002). FCEs are also increasingly used in the context of litigation relating to an injured employee's prospects to return to work, projected loss of earnings and/or where an employee may qualify for incapacity benefits (Innes & Straker, 2002). In this instance, FCEs forms part of a medical-legal assessment.

The literature revealed minimal information regarding the administration of FCEs in South Africa. An opinion piece, indicated that the FCE process in South Africa comprises (i) an initial interview during which medical, personal, educational and vocational information are collated; (ii) evaluation of performance components (physical and psychological) and activities of daily living; (iii) vocational evaluation; (iv) collateral interview; (v) work visit (if deemed applicable); (vi) analysis of the findings and; (v) writing up the findings in a comprehensive report (Buys & van Biljon, 2007). Once a comprehensive report is compiled, the occupational therapist recommends a referral to a service provider that can offer work rehabilitation services and/or any other service related to WP, if deemed appropriate. In most work rehabilitation practices, an FCE is usually a core component of the work rehabilitation regime and may be re-administered during and/or at the end of a rehabilitation programme to monitor an individual's progress since commencement.

A study involving a naturalistic inquiry approach, investigated the practices of therapists administering WPAs and FCEs in Australia. In-depth interviews were used as the primary method of data collection. Participants were identified using a variety of methods namely, making contact through the primary author, inviting participants through professional interest groups and identifying colleagues who knew potential participants, otherwise referred to as snowballing. Over a period of twelve months, a total of 27 people volunteered who met the inclusion criteria. Twenty-six were interviewed. Participants indicated that a combination of work samples (e.g. Valpar component work samples), work capacity evaluation devices (e.g. Ergos work simulator) and/or commercial FCE systems (e.g. Blankenship FCE, Isernhagen FCE), non–standardised approaches, and programmes developed in-house were used. Participants distinguished between a job-specific FCE (an FCE focused on an individual performing specific tasks related to their job) and a non-specific FCE, which related to the physical demands required for general work tasks. Job-specific FCEs tended to be less standardised than non-specific FCE's (Innes & Straker, 2002).

When taking into consideration that various FCE systems exist in the market (Genovese & Galper, 2009) and since some of these systems are now also being used in South Africa, the applicability of such systems should be investigated for the South African content considering the cultural diversity. As an example, a standardised lifting protocol prescribed by FCE systems, may not be relevant to a woman working in a rural setting who is used to carrying loads on her head, rather than by hand, due to the long distances that have to be covered in remote regions.

WPAs focus on the interaction between the employee, the employee's job and their working environment (Innes & Straker, 2002). It is specifically administered at the workplace and offers an overview of the physical environment, job demands and working conditions so that suitable duties can be identified. In some instances, WPAs may be administered so that decisions can be made to inform future rehabilitation requirements, such as modifying a return to work plan and/or developing a *work conditioning* or *work hardening programme* offered in a clinic (Innes & Straker, 2002). They also allow an opportunity to meet with key stakeholders such as the employee, manager, employer and union representative if appropriate (WorkCover, 1998). In South Africa, the WPA is referred to as a *work visit* and forms part of the broader FCE process (Buys & van Biljon, 2007). It typically includes an interview with the supervisor/Human Resources manager or the person who might otherwise manage the employee's case. The work performed by the specific employee is then reviewed. The occupational therapist may observe other workers performing the employee's job by ascertaining information about the work tasks, production requirements, work environment and ergonomic layout. Observations are also made about occupational hazards such as wet floors, cluttered surfaces and noise levels. The information gathered is then compiled into a work visit report, which is commonly used as a reference when administering an FCE (Buys & van Biljon, 2007). The content covered in a WPA is therefore similar to that in Australia.

The simulation of job tasks, referred to as *work simulation*, requires the employee to perform a range of activities/ tasks that simulate a variety of requirements specific to their job. It can be performed as part of an assessment and/or it may form part of an employee's rehabilitation. In the latter instance, *work simulations* can be administered over longer periods of times varying from half a day to several weeks, subject to an employee's rehabilitation goals (Innes & Straker, 2002). Where possible, specific tools and equipment are obtained directly from the employer in order to simulate work tasks as accurately as possible (Innes & Straker, 2002). In some instances work tasks may also be simulated as part of an FCE. For an example, an employee who performs a painting job may be provided with a ladder and paint brush to produce similar movements required in his/her job role. Genovese and Galper (2009) used the term "*job task simulation*" to describe the simulation of work tasks to assess specific job demands. They described this assessment as non-standardised assessments, but noted that

standardised tests such as Valpar work sample components and/or Baltimore Therapeutic Equipment (BTE) could also be used.

In South Africa, work simulation commonly forms part of a *vocational evaluation*. A *vocational evaluation* is usually a tailored assessment, which ensures that basic and suitable work skills/prevocational skills are assessed, before assessing more skilled and specific work tasks. This enables an assessing occupational therapist to obtain a comprehensive view of the employee's work abilities (Buys & van Biljon, 2007). Chan et al. (1997) described *vocational evaluations* as a broader assessment, which considers an individual's work/training background, general functional capacities and social/behavioural characteristics. This type of assessment usually includes an evaluation of medical factors, psychological makeup, educational background, social behaviours, attitudes, values, work skills and abilities. Innes and Straker (2002) indicated that a vocational assessment involved the assessment of physical, cognitive and psychosocial abilities, interests, and past work experience and transferable skills related to work. Similarly, South African occupational therapists use vocational evaluation as part of an FCE.

In South Africa, the *vocational evaluation* comprises activities for which the time norms for completion have been determined through the use of MODAPTS (a pre-determined time standard), work simulation, standardised tests and work sample systems (e.g. Valpar component work samples). As part of the *vocational evaluation* process, the employee's psychosocial skills such as interpersonal functioning and ability to communicate are also observed. These observations, together with the results of work activities and tests, provide further information regarding the employee's work habits, competence and skills and may highlight limitations which may need to be addressed further as part of rehabilitation (Buys & van Biljon, 2007). Buys and van Biljon (2007) noted that work simulation has been used less frequently by South African occupational therapists due to the cost of development and amount of space required to develop such tasks. A further disadvantage of simulated activities within a clinic environment is that within some work contexts, it becomes difficult to replicate tasks or activities involving machinery and thus in many instances it is simply not possible to truly mimic work-related tasks. For this reason, it is more beneficial to provide rehabilitation services directly at the employee's place of work.

Other assessments administered in the workplace included *job analysis*. This type of assessment may be used in combination with a WPA. A *job analysis* is an assessment and analysis of specific work tasks, work demands, work tools used by the employee, work station design, as well as the work environment (WorkCover, 1998). The term *workstation assessment* refers to a *workplace assessment* and *job analysis*, which involves the specific evaluation of computer or administrative desk-based work (Innes & Straker, 2002).

Medico-legal assessments are commonly associated with FCEs. The literature distinguishes *medico-legal assessments* from other *vocational assessments* and FCEs, as it is specifically focused on medical-legal aspects (Innes & Straker, 2002). In some instances *medico-legal assessments* may focus on the employee's general abilities, especially if the individual has no job to return to (a non-specific FCE), or in other scenarios it may include an evaluation of the individual's ability to perform all or some aspects of the job the person performing (job-specific FCE). It could also include a job analysis and WPA, the need for which is determined on a case-by-case basis. The foregoing is especially useful if the individual has a job to return to. Genovese and Galper (2009) noted that although FCEs are often used as medical evidence in legal proceedings (e.g. workers' compensation cases, disability determinations and personal injury claims), and therefore administered as a *medical-legal assessment*, they pose a risk of causing a new injury, re-injury or symptoms-exacerbation, which could expose the occupational therapist to negligence claims. For this reason the safety of the worker should always be considered when selecting and implementing a FCE.

2.5.3 Rehabilitation

Rehabilitation involving work, also referred to as *work rehabilitation*, is described as "*a structured programme of graded physical conditioning/strengthening exercises and functional tasks in conjunction with real or simulated job activities*" (Bade & Eckert, 2008:103). Work rehabilitation is offered after acute health care has been undertaken and serves as a transition to return to work, whilst aspects such as physical tolerance levels, work behaviours, functional abilities and safety are addressed (Bade & Eckert, 2008). Chamberlain and colleagues (2009) referred to the major components of interventions focusing on rehabilitating an employee back to work as an assessment of an employee's impairments, functional abilities, and fitness for work, followed by an assessment at the workplace. This being the first phase in identifying the main problems related to return to work, a goal-directed programme is tailored for the employee with the view to promote return to work. Initial treatment is usually designed to improve the individual's biomechanical performance levels including strength, endurance, movement, flexibility, stability, and motor control, and the psychosocial aspects that relate to the physical and psychosocial requirements of the job (Bade & Eckert, 2008). Services which are considered to form part of *work rehabilitation* include *job modification, case management, pain management, vocational counseling, vocational skills training/development, work hardening, work conditioning*, *return to work co-ordination* and *worksite accommodations* (e.g. adjustments to the job role, the job site, or adjusting the methods used to perform a job) (Deen, Gibson & Strong, 2002; Jundt & King, 1999; Shrey & Hursh, 1999). Rehabilitation services such, as *case management, job modification, return to work co-ordination, worksite accommodations* and *vocational skills training and development* in isolation are rarely discussed in the literature, being an inherent part of *work rehabilitation* and return to work. This section will discuss the provision of work conditioning and work hardening services,

vocational services such as work training and counseling, psychological interventions (e.g. pain management) and other rehabilitation services (e.g. supported employment, case management) focusing on return to work.

2.5.3.1 Work conditioning and work hardening services

Occupational therapists have established themselves as important role players in the provision of *work conditioning* and *work hardening services* (also referred to as *physical conditioning programmes*) (Deen, Gibson & Strong, 2002; Jundt & King, 1999; King, 1999; Darphin, 1995). Work *conditioning programmes* aim to facilitate return to work of injured employees by increasing aspects such as strength, endurance, flexibility and cardiovascular fitness, and may also include the simulation of work or functional tasks in a supervised environment such as a clinic or gymnasium (Schonstein et al., 2002). *Work hardening* is treatment that is usually designed to improve the individual's strength, endurance, movement, flexibility, stability, and motor control biomechanical performance levels, tolerance levels and psychosocial aspects as they relate to physical and psychosocial requirements of work (Chamberlain et al., 2009). *Work conditioning* and *work hardening* are usually different in focus. The primary aim of *work hardening programmes* is to facilitate return to work, improving an employee's work status and/or helping an individual to achieve a higher level of functioning after an injury or illness occurred (Schonstein et al., 2003). *Work conditioning* and *work hardening programmes* usually simulate work tasks in a safe environment under the supervision and guidance of an allied health professional such as an occupational therapist or physiotherapist. The programmes differ in focus, namely the provision of multi-disciplinary treatment, pain clinics, standard medical care, patient care management and behavioural interventions (Schonstein et al., 2003). The primary aims include the reduction of symptoms, improving quality of life (Guzman et al., 2001), improving physiological outcomes such as range of motion and muscle strength (Hayden et al., 2005) or assisting individuals to better manage symptoms such as depression and anxiety (Ostelo et al., 2005). A systematic review which investigated the effectiveness of physical conditioning programmes for workers with back and neck pain, compared with management strategies which did not involve physical conditioning, indicated that such programmes are effective in minimising absenteeism and increasing functional status (Schonstein et al., 2003). Eighteen randomised control trials were identified in 20 publications and 23 relevant articles were examined. The evidence indicate that physical conditioning programmes, focusing on chronic back pain and which included a cognitive behavioural approach, can minimise the number of sick days lost (as determined at 12 months follow up by an average of at least 45 days), when compared to usual care such as consulting with a general practitioner or obtaining advice. There was, however, no evidence indicating the effectiveness of physical conditioning programmes (whether focused on work or not), which included a cognitive behavioural approach and physical exercises for acute back pain.

2.5.3.2 Vocational services

Gobelet et al. (2007) noted WP services include what is referred to as *work retraining* (also referred to as *work skills training*) and *vocational counseling*. *Work retraining*, is a learning process, which occurs when an individual has to acquire a new skillset or trade with the view to change profession (Tuomi et al., 2001). This commonly occurs when a client can no longer fulfill their current job role as a result of an injury or illness, preventing the employee from performing their nominated occupation. This follows after accommodations or redeployment options have been exhausted. As such, re-training of a new skill or trade may be required to enable employment in a new job role. Such services are often costly and time-consuming and require a high level of motivation from the employee to pursue further learning. A study, which investigated the impact of a *pre-vocational program* on cognition, symptoms and integration to work in individuals suffering with schizophrenia, revealed positive effects of occupational therapy interventions such as work skills training in mental health (Rouleau et al., 2009). Twelve participants, who only received pharmacological intervention, were compared to 14 participants, who attended a pre-vocational programme and received pharmacological treatment. The work skills training group was offered by occupational therapists in a simulated work environment and included graded, structured tasks, homework assignments, and computerised exercises to develop attention, memory and problem solving skills. The findings of the study revealed statistically significant differences in general symptoms, visual attention, learning and integration to work in the participants who attended the pre-vocational programme, compared to those who did not.

Vocational counseling is another area of intervention that can be provided to individuals via discussion and guidance. This process can occur during different rehabilitation phases. For instance, in an earlier phase, information gathered from the different assessment processes (standardised and paper-pencil testing) can be used to help individuals understand their interests, values, needs and direction of their vocational pursuit (Lee, n.d.). *Vocational counseling* can also be used to educate individuals in understanding the availability, specific nature, strengths and limitations of a job requirement (e.g. job analysis, labour market surveys, and transferrable skills analysis). *Vocational counseling* also includes soft-skills involved in the job application process such as resume writing, cover letter writing, interviewing skills, and disability disclosure, which lead the client to obtain the job. (Lee, n.d.).

Although *vocational counseling* and *work skills training* are provided by South African occupational therapists (Buys & van Biljon, 2007), no studies were located that indicated the manner and context in which these services are used.

2.5.3.3 Pain management programmes related to return to work

It is important to recognise that injuries, illnesses or disabilities are not only physical in nature, but could also include psychosocial, cognitive and neurological difficulties. Therefore rehabilitation rendered by occupational therapists also addresses psychological symptoms, stress-related symptoms or disorders, and fear avoidance behaviour, which may necessitate workplace modification (Jundt & King, 1999). Bade and Eckert (2008) noted that occupational therapists' focus on activity analysis, rehabilitation, and the development of accommodations, as well as their training in group dynamics, uniquely positions the profession as one of the most important role players in facilitating an injured or ill employee back to work. Pain management services form an integral part of work rehabilitation services and focuses on addressing both physical and psychological aspects of pain. Various treatment approaches exist, varying from basic advice to resume activities as soon as possible, pharmacological interventions, or accessing rehabilitation centres focusing on intensive multidisciplinary treatment (Sullivan et al., 2005). *Pain management programmes* offered as part of multidisciplinary treatments, usually vary in terms of structure, content and duration. Some interventions may be offered in group settings, while others involve individual treatment. Research supports the effectiveness of such programmes, regardless of the content, structure and manner in which the *pain management programme* is offered (Main, Sullivan & Watson, 2007). The role of occupational therapists in the management of pain involves education on activity pacing; using the correct body mechanics and manual handling procedures; energy conservation and simplifying work, prescription of assistive devices; and providing relaxation and stress management (Robinson, Kennedy & Harmon, 2011). A narrative inquiry involving nine occupational therapists from Australia and New Zealand who provided *pain management programmes*, explored the approaches used by clients to manage their pain. Psychological approaches such as cognitive behavioural therapy (CBT) were used by occupational therapists as part of pain management. CBT involves 'learning new behaviours…and challenging and changing unhelpful or negative ways of interpreting and constructing their (an individual's pain) experience' (Curran, Williams & Potts, 2009:178). The results of the study indicated that pain management strategies drawn from agentic themes (positive management) included realistic goal-setting, pacing and using relaxation techniques. Victim themes (negative themes) involved the sacrificing of valued roles, feeling depressed and being fearful. The study found contextual, cognitive behavioural approaches to be a viable approach to manage pain. Including such approaches as part of pain management by occupational therapists in South Africa could be useful to treat patients, taking contextual factors into consideration. As an example, pain management strategies of an individual living and working in a rural setting where access to transport and modern amenities (e.g. electricity and water) may be limited, and could be better understood using a contextual CBT approach. In the past decade, secondary prevention programmes have been developed with the primary objective of preventing the occurrence of chronicity in patients at risk of suffering chronic pain (Sullivan, 2003). As an example, a study demonstrating the participation in a cognitive behavioural

intervention, was associated with a more noticeable decrease in work disability, compared with the usual treatment provided (Linton et al., 2005). Participants who presented with back pain in a primary care setting, and who presented with signs of developing chronicity on a screening instrument, were selected for inclusion in the clinical trial. Participants were randomly assigned to three intervention conditions; a standardised, guideline-based, treatment as usual programme; a six-week cognitive behavioural group programme; or a combination of a six-week cognitive behavioural group and physical therapy programme. Results indicated that the two groups receiving cognitive behavioural interventions had fewer days off work for back pain during the 12-month follow-up, compared to the guideline-based treatment group. Although no significant difference was reported in pain reduction, the groups receiving the cognitive behavioural therapy interventions had fewer days absent from work compared to the comparison group. The CBT programmes assisted patients to better manage their pain levels while improving participation in work and daily tasks.

2.5.3.4 Case Management

Occupational Therapists have also positioned themselves in providing case management services, one of the aims being to facilitate return to work. Case management is described as a process requiring collaboration with key stakeholders (e.g. supervisors, health care practitioners, employers, union members, HR managers and/or any other party involved in the case) involving assessment, planning, implementing, coordinating, monitoring and evaluating the options and services required to meet an individual's health and human service needs (Jensen, 2012). The author noted that employers are increasingly turning to case management and care coordination to minimise the effect of employee injuries and facilitating return to work, whether or not the injury was sustained as a result of an injury at work. The majority of case managers usually have a background in nursing; however, other professional disciplines involved with vocational rehabilitation also provide such services. The type of case management service offered typically depends on the case management model selected and is guided by the philosophy, mission structure and funding of an organisation. Case management services commonly adopt a client-centred approach and aim to assist a client to (i) identify personal and work-related goals and implement strategies to meet these goals; (ii) offer continued support over a period of time (e.g. use of compensatory techniques for specific impairments, giving advice regarding accommodations in the workplace); (iii) ensuring accessibility to resources by liaising with both clients and stakeholders to resolve barriers which may prevent return to work; and (iv) promoting independence (Krupa & Clark, 1995). Although case management is indicated as a service in WP offered by occupational therapists in South Africa (Buys & van Biljon, 2007), no literature seems to be available regarding the nature of such services provided by occupational therapists locally. The lack of specific criteria seems to indicate that special certification or training is required by occupational therapists to

provide these types of services. This may be a result of occupational therapy involvement in offering this service being in a state of relative infancy.

2.5.3.5 Supported Employment

Supported employment (SE) continues to currently receive greater attention in the literature, probably as it has proved to be effective in helping individuals with substantial disability to secure and retain employment by optimising integration in the workplace (Meade et al., 2006). The primary goal of SE is to address job retention and provide ongoing support and follow-up services to keep the disabled individual in competitive employment (Rinaldi et al., 2008). The process of SE typically comprises job finding, job analysis, job matching and job coaching (Hoekstra et al., 2004). Job coaches are employment specialists who provide ongoing support to people with disabilities in the workplace as determined by an employee's specific needs and the particular SE programme (van Niekerk et al., 2011). Existing international literature indicates that supported employment is effective, specifically ensuring the active involvement of an employee in meaningful employment (Meade et al., 2006; Crowther et al., 2001). Although some occupational therapists provide supported employment services in South Africa, SE has not been adopted as mainstream practice as a result of several barriers (van Niekerk et al., 2011). Problems in implementing such services in South Africa include the lack of relevant legislation to guide supported employment as well as a lack of co-operation between relevant departments such as Social, Health and Labour (van Niekerk et al., 2011). Furthermore, a cost analysis of such services has not yet been conducted and the viability of such services in the South African context has yet to be determined. Van Niekerk et al. argued strongly for relevant parties to exchange information and engage in the development of a SE knowledge-base to inform South African practice. Such an exchange of information was encouraged between employers, job coaches, service providers and consumers.

2.5.4 Outcomes of Work rehabilitation

Taking the various work-related outcomes into consideration, it is important to evaluate them from the perspective of the employee, employer, service provider and/or health practitioner providing the service as the outcomes for each role-player may differ. The primary outcome of rehabilitation in the field of WP focuses on the individual's ability to participate in work (Escorpizo et al., 2011). However, it is also important to note that participation in work can assume many different forms. If the individual is on sick leave, Chamberlain and colleagues (2009) highlight the following possible return to work outcomes: (i) returning to pre-injury employment; (ii) returning to same employment, but performing modified duties; (iii) returning to the same workplace in a different role; and (iv) seeking an alternative job with a new employer. The foregoing outcomes focus primarily on an employee who is on sick leave but do not address outcomes relating to injury prevention, reduction in injuries on duty, minimising

sick absence and retaining employees at work; all of which are also considered part of the range of work rehabilitation outcomes.

Outcomes should therefore include the facilitation of early return to work with a subsequent reduction in sick leave, thereby increasing the participation of disabled individuals in work. This should have a positive effect in saving the direct and indirect costs of illness to the employer (Karrholm et al., 2008). A study assessing the efficacy of early workplace intervention programmes for employees with musculoskeletal disorders indicated a significant reduction in sick absenteeism and costs. Although the programme was successful, it was difficult to determine which specific interventions were most beneficial (Arnetz et al., 2003). A systematic review of controlled intervention studies and economic evaluations, indicated the efficacy of stakeholder participation (e.g. employee, workplace and health professions) and work modification as being more cost effective in returning adults with musculoskeletal conditions back to work compared to other workplace associated interventions (Carroll et al., 2010). The findings highlighted that workplace interventions are effective in supporting return to work of individuals with back pain on sick leave. Interventions which involved active involvement and consultation with employee, employer and occupational health providers, as well as reaching consensus regarding workplace modifications to be implemented, were more effective in returning individuals with long-term sick leave back to work than interventions which did not involve such an approach. Workplace-related exercise was also proven to be effective when compared to usual care, but when compared to control interventions (e.g. exercise offered away from the workplace), exercise offered at work was not more effective. As such, the authors warn that caution should be applied when comparing workplace interventions, as not all are alike. There are various studies referring to predictive factors that facilitate return to work, such as age, motivation of an individual, general health and the type of rehabilitation programme provided (Selander, Marnetoft & Åsell, 2007; Zampolini, Bernardinello & Tesio, 2007).

2.6 Summary

WP services have evolved into a recognised and well-established area of practice among occupational therapists over the past couple of decades. WP terminology varies internationally and locally and creates problems if the same ’language’ is not used. Although, the term *vocational rehabilitation* is still frequently used, the term *work practice* is however a much broader term and encompasses a wide array of services, including vocational rehabilitation. In this study, *work practice* is used as an umbrella term to describe all services related to work including occupational health, safety and prevention and work rehabilitation. WP services are provided in three broad areas namely prevention, assessment and rehabilitation.

Services provided as part of prevention, include *body mechanics/back education, manual handling training, ergonomics, stress management, joint protection, wellness/fitness programmes* and *surveillance and discomfort surveys*. There is limited information about su*rveillance and discomfort surveys*, *stress management training,* and *wellness/fitness programmes* offered as stand-alone prevention services by occupational therapists in WP.

A literature review of *work assessments* indicated that studies primarily focus on FCEs and associated assessments administered in clinics. *Work assessments* are commonly divided into two main categories, namely FCEs and *workplace (or worksite) based assessments*. South African occupational therapists seem to follow a similar approach to their international colleagues with respect to the use and administration of FCEs, *workplace assessment* and *vocational assessments*.

Work rehabilitation services includes *job modification, case management, pain management, vocational counseling, vocational skills training/development, work hardening, work conditioning, return to work co-ordination* and *worksite accommodations*. Current literature rarely discusses rehabilitation services such as *case management, job modification, return to work co-ordination, worksite accommodations* and *vocational skills training and development* as WP services offered in isolation; rather, these services are an inherent part of *work rehabilitation* and returning an individual to work.

In conclusion, there is a lack of information concerning WP services provided by occupational therapists in South Africa. More specifically, little is known about the type of services rendered, the settings in which they are provided and information sources used by occupational therapists to inform their practice. As such, this study will aim to describe the practice profile of occupational therapists providing WP services in South Africa in order to determine whether the work-related needs of the South African population are being met and to inform future planning of services.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter begins by explaining the type of study undertaken to collect objective information with the view to describe the practice profile of occupational therapists rendering WP services in South Africa. It describes the sampling method and recruitment process, following which detailed information is provided regarding the survey development, the process followed to establish its content and face validity, ethical considerations and the manner in which data was collected and analysed.

3.2 Research design

A non-experimental, descriptive cross-sectional study was undertaken with the main purpose of seeking a better understanding of the WP services offered by occupational therapists within South Africa. Since there is minimal published South African research about WP services provided by occupational therapists, a quantitative survey design was most appropriate for gathering data that is objective, measurable and reliable and could be generalised to the greater occupational therapy population offering WP services in South Africa (Franche, et al., 2004). The aim was to collect data at a single point in time (Hopkins, 2008) in order to obtain an accurate and up-to-date perspective of WP services rendered by occupational therapists.

3.3 Study population and sampling

The study population included occupational therapists delivering any type of service related to WP. As there was no official database containing details about occupational therapists' practicing in the field of WP, the actual number of occupational therapists specialising in the field was unknown. Therefore, specific organisations and groups were targeted to identify appropriate participants as discussed in section 3.5.

3.3.1 Inclusion criteria

The study focused on qualified occupational therapists registered with the Health Professions Council of South Africa (HPCSA) offering any of the WP services listed below as highlighted by Buys and van Biljon (2007):

- **Injury prevention services** (e.g. back care training, ergonomic advice and/or adjustments, training on the prevention of repetitive strain injuries);
- **Health promotion and wellness programmes in the workplace;**

- **Evaluation** (Job Analysis, FCEs, Medical legal assessments, Ergonomic assessment of work-sites, job modifications/reasonable accommodation evaluation).
- **Vocational Guidance Services** (Vocational counseling), Work retraining and/or work orientation and counseling.
- **Intervention Services** (Job modification, reasonable accommodation, rehabilitation case management).
- **Placement Services** (Facilitating early return to work, identification of job restructuring, job sharing and redeployment possibilities as placement opportunities)
- **Follow up services** (telephonically and/or face to face), which is specifically related to the workplace.
- **Diverse services** (Counseling, advising employers and clients regarding legal aspects of disability involving employment of people with disabilities.).
- **Supported employment**.

3.3.2 Exclusion criteria

There were no exclusion criteria.

3.4 Sampling method

Non-probability convenience sampling was used to target specific occupational therapists, occupational therapy practices, interest groups, organisations and/or affiliations (as further described in section 3.5) to which occupational therapists fulfilling the inclusion criteria hold memberships. This sampling method was combined with snowball sampling, by targeting occupational therapists that did not hold a membership with a particular organisation, interest group or affiliation, but were rendering services relating to the field of WP. Contact details of such occupational therapists were obtained from other participants.

Information from the Occupational Therapy Association of South Africa (OTASA) membership database indicated 1193 occupational therapists with an interest in the WP field (E. Mahomed, OT Office administrator, oral communication, August 2013). This information is captured from the OTASA membership form in a section where the members specify an interest in the WP field. In order to determine the sample size necessary to generalise the results to the population at a 95% confidence level and a margin error of 5%, assuming a total population of occupational therapists delivering services in the WP field of 1193, the sample size was determined to be 291(Raosoft, 2004). Based on recent studies showing typical response rates for these types of surveys to be 52.7% (Baruch and Holtom, 2008), the survey had to be sent to a minimum of 582 participants.

3.5 Recruitment

The recruitment of participants occurred by emailing several interest groups, professional associations and occupational therapists delivering services within the field of WP to explain the purpose and nature of the study and obtain their consent to distribute the survey electronically. The interest groups and organisations that were contacted, by means of information provided by the OTASA Office administrator, E. Mahomed, included occupational therapists that held memberships with the following forums/associations/interest groups and affiliations:

Occupational Therapy Association of South Africa (OTASA). As the official organisation for occupational therapy in South Africa, groups affiliated with OTASA that were contacted were as follows:

- **Medical Legal Interest Group**: Members deliver work related services such as FCEs, worksite assessments and case management.
- **Forum for Occupational Therapists working in the Public Sector**: Members may undertake vocational assessments and rehabilitation of individuals following treatment of acute injuries.
- **Rural Rehabilitation South Africa (RuReSA):** Members working in rural sections may be involved with re-integration of employees back to work and/or may offer supported employment services.
- **South African Society of Hand Therapists (SASHT):** Members of this society often treat clients who sustained hand injuries in the workplace and may offer intervention services following the treatment of acute injuries to facilitate return to work.
- **Interest group for occupational therapists working in the field of Psychiatry (referred to as POTS)**: Members of this group may be involved in the rehabilitation of psychiatric clients back to work.
- **Occupational Therapists working in Life Assurance (OTLA)**: Members of this organisation are often involved with work claims assessment and/or case management services to assist a client to return to work.
- **Occupational Therapists in Occupational Health Interest Group (Western Cape)**: Members of this group are involved with occupational health services such as the assessment of injured employees, rehabilitation of employees following and injury and prevention services.

Not all occupational therapists registered with the HPCSA hold a membership with OTASA. Therefore, other groups as indicated below, were also contacted to obtain as a representative sample as possible.

Others:

- **Work Practice Interest Group (Western Cape)**: Members of this group are involved with WP services in the Western Cape such as the evaluation and treatment of ill/injured employees.
- **Occupational Therapists with a Diploma in Vocational Rehabilitation from the University of Pretoria**: Occupational therapists holding this qualification are usually involved with WP services.

A summary of additional organisations, groups, affiliations and private practices contacted, as a result of snowball sampling, are provided in Appendix A. After organisations/ interest groups/ affiliations were contacted, the researcher was provided with contact details of individual practices and/or additional interest groups in other provinces, to contact. Details are provided in Appendix A of particular organisations contacted and the following information is provided:

i) Date of initial contact during which the nature and purpose of the study was explained;
ii) Date that consent was obtained;
iii) Whether the researcher was given permission to distribute the survey directly via the organisation, group, affiliation or practices' distribution list. If so, the contact person provided a list of their members with their emails to the researcher. In order to ensure confidentiality, these email databases was deleted after completion of the study;
iv) Whether the contact person of the organisation, group, affiliation or practice agreed to distribute the survey on behalf of the researcher (in this instance the contact person preferred to disseminate the information themselves by forwarding the details provided by the researcher via their database);
v) Dates of distributing the initial email, first email reminder, second email reminder and final email reminder.

A total of 29 out of 32 organisations, groups, forums, affiliations or practices provided their consent to use their databases for distribution of the survey. The primary contact person representing occupational therapists working in the life insurance industry did not respond to the researcher's initial request. A second contact person indicated that she did not have a database listing occupational therapists working in this industry. Therefore, various insurance industries were contacted to distribute the survey. For purposes of confidentiality, the primary lecturer offering the Vocational Rehabilitation Diploma at the University of Pretoria could not use the university database to distribute the survey. The researcher was therefore referred to other groups specialising in WP (also listed in Appendix A) for distribution of the survey. One member of a non-governmental organisation (NGO) indicated that she could not participate in the study, as she was not practicing as an occupational therapist. She was furthermore not

aware of a database, specifically listing occupational therapists working at NGOs. The manner and strategy used to distribute the survey is further explained in section 3.8 'Data Collection'.

3.6 Instrument Development

The initial phase involved the development of the content of the initial draft of the survey instrument. Thereafter, content and face validity was established by facilitating a focus group, comprising experts in the field. Feedback from the focus group was incorporated to make amendments to the survey instrument, following which clinical utility was established by piloting the survey with five occupational therapists, not working in the field of WP. This process is discussed in more detail in the section below.

3.6.1 Developing the content of the initial draft of the instrument

The development of the survey content was largely informed by a review of key areas by Jundt and King (1999) who conducted a survey of work rehabilitation programmes amongst occupational therapists in the United States. Specific reference could not be made to the survey instrument as the researchers indicated that the survey instrument could not be traced. The authors of an Australian study, which involved an investigation into Australian occupational therapy WP services, were also contacted to obtain permission to view their survey instrument, however they did not respond to the request (Deen, Gibson & Strong, 2002). There was also no response to a request for information on the survey tool used in a small South Africa study conducted in 2004/2005 (Buys & van Biljon, 2007).

Apart from the content reported in the article by Jundt and King (1999), additional services sources from the literature review were included in the draft instrument, in order to incorporate more recent developments in the field (see Appendix B). The following guiding questions were formulated and aligned with the aim and objectives of the study to inform the development of the draft instrument:

- Which occupational therapists (in terms of experience, expertise and field of practice) deliver WP services?
- What specific WP services are offered (e.g. types of intervention and frequency of service delivery)?
- In what settings are WP services offered?
- What information do occupational therapists use to make decisions to inform their practice?

Decisions about the initial survey content were further informed by published prior research, consultation with experts in the field as well as personal and professional experience.

3.6.2 Applying the principles of questionnaire design

The following principles of questionnaire design were applied during instrument development in order to facilitate accurate and complete responses (Walonick, 1997):

- To ensure coherence with the aims and objectives of the study, items were aligned with the primary research question.
- Most of the items were close ended and used an ordinal scale containing five response options.
- Options such as “not applicable” or “never” were provided in the event that a question did not have relevance to the participant.
- Questions were formulated and sequenced to follow on from the previous question to facilitate a logical flow of information.
- Questions included one concept per item and were composed in a neutral manner.
- Unfamiliar terminology and abbreviations were avoided.
- Sufficient space was allowed for entering a descriptive response where necessitated.
- A focus group was held prior to data collection to identify questions that were vague or confusing. The process followed to facilitate the focus group is discussed in more detail in section 3.6.3.1.

The following principles were followed as suggested by Streiner, Norman & Cairney (2008) for developing the scale used in the survey instrument:

Scale construction comprised five categories. A minimum of five to seven categories has been recommended as the reliability coefficient is adversely affected if less or more than five or seven categories are chosen. More specifically, this can produce inconsistent response patterns and/or results in ambiguity of participant responses. As such, each choice along the scale was assigned a point value, based on the degree to which a label represented a favourable or less favourable characteristic. For example, a rating of five indicated that a participant’s practice focused very strongly on a certain type of intervention/service, whereas a rating of one indicated no focus on a specific type of intervention/service in their practice (see Table 2).

Table 2: Example of ordinal scale

5	4	3	2	1
Very strong Focus	Strong focus	Neutral focus	Occasional focus	No focus

- Choices were contained by limiting the scale to one of five responses, as too many choices are confusing and time consuming to complete. Similarly, too few responses may be restrictive and ambiguous.
- Categories were assigned descriptors so there was a clear mid-point.
- Each category was given a descriptor to assist the respondent with completion.
- Descriptors were short to ensure that the meaning was clear.

3.6.3 Pilot test to refine the instrument

The process for survey development proposed by Portney and Watkins' (1993) was followed to pilot and refine the draft survey instrument before its final release.

3.6.3.1 Content and face validity

This step involved the selection of experts in the field of WP to participate in a focus group discussion. Theoretical sampling was used to select participants to reflect a range of the study population (Kitzinger, 1995). Participants were considered to be experts if they had a minimum of 10 years' experience and were well established in the field of work practice. Some had done presentations in the field of work practice and had published. The experts comprised the following representatives:

- An occupational therapist appointed in an academic position with involvement in the field of WP.
- An occupational therapist delivering WP services in the public sector.
- An occupational therapist delivering WP services in the private sector.
- An occupational therapist working in the corporate sector (i.e. insurance industry).
- An occupational therapist providing WP services to a non-governmental organisation.

In so doing balanced feedback was obtained from both a clinical and theoretical point of view. Following agreement by the experts to participate in the focus group discussion an initial draft of the survey (as proposed in Appendix B), was distributed via email to the participants so that they could view the content, prior to attending the focus group.

The following was considered prior to and during the facilitation of the focus group as recommended by Kitzinger (1995).

- Experts were contacted and invited by email to participate in the focus group.
- A predetermined date and time, suitable to all participants was identified.
- The specific duration of the focus group was difficult to determine prior to the session, as this was subject to the level of involvement by participants. It was considered reasonable to allow at least two hours for the facilitation of the focus group.

- A mutually convenient location to all participants was selected.
- Participants sat in a semi-circle to establish a comfortable atmosphere to encourage participation.
- The researcher, who facilitated the focus group, discussed the aim and purpose of the session at the beginning of the focus group.
- The level of involvement by the researcher was determined by the specific focus of the session, namely to review phrasing of questions and eliminate misunderstandings.
- Important points were noted on a flip chart.

Burns and colleagues (2008) suggested the use of a table of specification during the process of survey development in order to establish validity. This involves listing research questions were listed on a vertical axis and the types of information sought on a horizontal axis. The table can be revised as questions are altered or eliminated. Their suggested approach was adapted by listing survey items on a vertical axis and specific questions pertaining to each item on the horizontal axis. This was used during facilitation of the focus group to aid discussion.

The table of specifications was sub divided into two steps namely:

Step one aimed to identify items, which were problematic and step two identified the action required to address the problem e.g. changing the wording, eliminating a question and/or including a question. Decisions were made based on consensus by the majority (i.e. more than three of five) of the group. An example of the table of specification used during the focus group with the proposed questions listed in the horizontal axis is available in Appendix C.

Content validity was established by means of the expert panel reviewing whether the content covered in the survey instrument, actually measured the range of WP services considered part of WP and whether the scales and descriptors, were appropriate for measuring the WP services provided by occupational therapists (Taylor & Bogdan, 1984).

Face validity was determined by the panel reviewing the suitability of the words used and the appropriateness of questions formulated. Specific attention was given to the phrasing of questions to ensure that questions could be responded to independently (Taylor & Bogdan, 1984).

The draft survey was modified following feedback from the focus group. Amendments based on the feedback are documented in Appendix D. The Google survey tool, a web based instrument, was used to compile a structured self-report questionnaire, as this allowed for immediate import of participant responses into an *Excel* document (*Create a survey using google forms.*n.d).

3.6.3.2 Instrument utility

The utility of the instrument was established by piloting the survey tool with at least five therapists who did not form part of the study and who did not provide services in the area of WP. Since the aim of the pilot was to investigate the instrument's utility, participants did not have to be employed in the area of WP. Convenience sampling was used to select five occupational therapists that were not practicing in the area of WP. The purpose of this pilot was to specifically assess the user-friendliness, layout, sequencing, and completion time of the instrument (Corr & Siddons, 2005). The survey was emailed to the participants of the pilot, with a web link to access the electronic survey. Once the participants submitted the survey they were not able to re-visit their survey responses.

A summary of information for the pilot is included in Appendix E. All participants found the instrument to be user-friendly. One participant indicated that it would be helpful if the questions could be highlighted in bold. This could not be implemented due to design restrictions pertaining to the electronic survey tool. Another participant indicated that the scales were useful, but suggested the use of a three point, rather than a five-point scale. The scale was not changed due to feedback obtained during the focus group discussion and for the reasons indicated in section 3.6.2 No additional amendments were required to the survey.

3.6.4 Final draft of survey instrument

The final draft of the survey instrument contained four sections as indicated below.

Section 1: Demographics

This section contained demographic information including the respondents' years of experience, age, year and institution of qualification, highest level of education, place and type of practice.

Section 2: Services

The second section focused on different components of WP services as discussed in the literature review. More specifically, the different types of services falling under evaluation, treatment/rehabilitation and prevention services were incorporated. The section was subdivided into three subsections of WP service delivery namely:

i) Evaluation.
ii) Treatment/rehabilitation.
iii) Prevention/Education/Training

Section 3: Outcomes

The third section gathered information about the outcomes that occupational therapists in WP focus on as well as how they measure these outcomes. Questions were pre-dominantly guided by the study undertaken by Jundt and King (1999) and were subdivided into the following categories: (i) rehabilitation outcomes; (ii) employee outcomes; and (iii) employer outcomes.

Section 4: Evidence based practice

The final section of the instrument gained information about the sources of information used to inform decision-making. These questions ascertained if participants engaged in literature searches, interest groups, journal clubs, utilised a mentor system and attended specialist courses as part of seeking to apply/implement evidence based practice.

The final survey instrument that was distributed to participants can be viewed in Appendix F.

3.7 Data collection

The electronic survey, which allowed online completion with the press of a "submit-icon" at the end of the instrument," was distributed via email to target as many participants delivering WP services as possible. An information sheet, (see Appendix G) was attached to the email to explain the nature and purpose of the study. Contact details were included should participants require additional information about the study.

Distributing the survey via email was more cost effective than a paper-based postal survey and facilitated a faster response rate (Bailey, 1994 & Mitra, 2008). It also saved significant time compared with a paper based postal survey (Meehan & Burns, 1997). An online format also allowed participants to complete the survey in their own time without the undue pressure and possible anxiety of the researcher waiting to collect the form while they completed it.

The following modification of Dillman's (1998) four-contact strategy, was used as a guide for sending out the survey and the follow up reminders:

- The initial email with an information sheet explaining the purpose and nature of the survey was sent out with a web link to access the survey instrument.
- Three weeks later an electronic email reminder was sent to encourage occupational therapists to participate.
- One week later, another email reminder was sent to participants.
- A final reminder was sent on the closing date.

The web link to the survey was attached to each email reminder to facilitate easy access, rather than re-visiting the original email that was sent. The dates for distribution and follow up are shown in table 3.

Table 3: Distribution of survey instrument

Step	*Email*	*Date distributed*
1	Initial email	27 February 2014
2	First email reminder	20 March 2014
3	Second email reminder	27 March 2014
4	Final reminder and submission date	4 April 2014

Participants were encouraged to submit their completed surveys by 4 April 2014. A return email address was also provided for any questions or concerns relating to access and/or completion of the survey.

The following principles were implemented to achieve a high response rate (Walonick, 1997):

- An introduction letter was sent to explain the purpose of the study and ensure that participants understood the nature and context of the study in order to make an informed decision as to their choice to participate.
- Questions were drafted in a manner, which allowed the respondents to select the relevant boxes to aid quick completion of the questionnaire.
- The length of questions was contained, to facilitate easy completion of questions.
- The survey was sent electronically to facilitate quick return, rather than adding to a time consuming burden of returning the survey by post.
- Participants were not required to disclose personal information to ensure confidentiality.

3.8 Data Management

Survey responses were numerically coded, numbered, dated and stored in a password-protected folder, only accessible by the researcher, in a single secure database. Once a participant submitted the survey, the responses were automatically captured in an Excel spreadsheet, which could only be accessed and viewed by the researcher. Only one return email address was provided to ensure that no one else viewed the data.

3.9 Data analysis

A statistician from the University of Cape Town assisted with the analysis of the data (K. Mauff, email communication, 27 November 2013). For demographic information that was captured numerically, such as age and years of experience, means and standard deviations were calculated. Frequencies and appropriate percentages were determined for all categorical data.

Frequency descriptors were collapsed for ease of reference. Specifically, responses indicated as “often” and “always” were recoded as “frequent” and responses indicating “rarely” and “sometimes” were recoded to “occasionally”. Descriptors investigating the level of focus by the participant (i.e. WP settings) were collapsed and reported as “no focus”, “occasional/moderate focus” and “strong/very strong” focus.

Open ended responses relating to other continuing professional development courses attended, WP settings and/or services, were analysed by looking for patterns of responses and then grouping similar “meaning units” into categories that captured the main themes (Hosking et al., 1995). Frequencies and percentages were calculated for each theme.

With reference to objective two, involving the settings in which WP services were delivered, cross tabulations were used to display the relationship between practice settings and the specific focus of service delivery for the setting. Chi-squared tests of association (with Fisher’s exact correction) and contingency tables were used to determine whether or not there were any significant associations between the frequency of FCE services provided and the frequency of use at each WP setting.

In order to determine the type of information used by occupational therapists to inform the delivery of WP services, cross tabulation analysis was undertaken to determine which information and/or approaches were more prevalent than others.

Cross tabulations were conducted to display frequency distributions between categorical variables such as work rehabilitation services provided at a clinic/practice and an employee’s place of work. Chi-square analysis of association was also undertaken to determine whether or not there was any association between the frequency of treatment/rehabilitation services provided and the location of the service provided (i.e. clinic/practice or an employee’s workplace). A p-value of <0.05 is considered to be significant. Due to the type of data collected, further statistical analysis to determine significant differences between variables was not feasible for all categorical data.

3.10 Ethical considerations

Ethical approval was obtained from the University of Cape Town Human Research Ethics Committee in December 2013 (HREC Ref. 746/2013). The letter of approval is attached in Appendix H. Minor amendments made to the research protocol were approved in February 2014. The revisions made to the research proposal indicated that the utility of the instrument rather than its intra-rater reliability would be investigated as intra-rater reliability was not required considering that the aim was to describe current practices of occupational therapists at a single point in time. The stability of the instrument was therefore not of concern, but its utility was considered important. A second minor amendment involved, a change to the

introduction letter sent to participants. In order to contain the length of the information sheet, the list of WP services initially indicated in the letter was deleted. The list of services was however indicated when the email, containing the electronic format of the survey instrument was sent to all participants. The information sheet was sent as an attachment with the web link to access the survey.

The study adhered to the Declaration of Helsinki (World Medical Association, 2013). Participation in this study was voluntary and no participant was forced to engage in the survey without their voluntary consent. An information sheet (Appendix G) was sent with the electronic survey to explain the purpose and ethical implications of the study. Contact details were provided in the information sheet accompanying the survey should participants wish to clarify any queries with the researcher.

Permission was obtained from the Associations, Forums and Interest groups to distribute the survey via their email database. Distribution of the survey occurred via the head office or main contact person of the respective organisation to respect the privacy and confidentiality of personal contact information. To ensure anonymity, no names or contact information was required on the survey. Emails were deleted once the survey and follow up reminders were sent. The content of the survey was treated as confidential and was only used to analyse the results for the purpose of the study. Information was stored in a single electronic database, which was password protected and locked in a secure location. The computer hosting such files also had password protection to prevent access by unauthorised users. There were no known risks involved in partaking in this study.

There was no direct benefit of participating in this study. The results will however benefit the participants indirectly as it will assist in better understanding the profile of occupational therapists delivering WP services in South Africa, the nature of the services that are typically provided and the type of information that informs therapists about best practice.

3.11 Summary

A non-experimental, descriptive cross-sectional study was undertaken with qualified occupational therapists registered with the HPCSA who provided any type of WP service. Non-probability convenience sampling and snowballing were used to obtain as many participants who met the inclusion criteria as possible. Development of the survey instrument initially involved covering of content comprising WP services gained from the literature review and a similar study undertaken in the United States. Thereafter, content and face validity were established through a focus group comprising of experts in the field. Feedback from the focus group was used to make amendments to the survey instrument, following which clinical utility was established by piloting the survey with five occupational therapists, not working in the field of WP.

The final survey instrument was compiled using the Google survey tool, and the web link to the survey was distributed to participants via email along with an information sheet. Survey responses were automatically captured in an Excel spreadsheet. A statistician assisted with statistical analysis. Frequencies and proportions were determined for all categorical data. Open ended responses were grouped into themes, and frequencies and proportions were calculated for each theme. Chi-square analyses were undertaken to determine associations between different variables. Ethical approval was obtained from the University of Cape Town Human Research Ethics Committee in December 2013 (HREC Ref. 746/2013).

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the study findings. The chapter begins by discussing the response rate to the survey, followed by a description of the demographic profile of participants. Practice settings in which services are frequently delivered and the type of WP interventions, which received various levels of focus by participants, is discussed. The frequency of service delivery involving evaluation, treatment and rehabilitation as well as prevention, education and training are further described. Finally, the types of follow up services, WP outcomes and the evidence-based practices utilised by participants are reported.

4.2 Response rate

Of the 109 participants who responded to the survey, 106 submitted their responses by the date of closure. A further three received in the following week were accepted. All participants provided consent to participate in the study. Some participants (n=43) did not select the response box to indicate that they delivered WP services, which was an inclusion criterion. This was, however, considered an oversight as their subsequent responses indicated that they did provide WP services. Therefore, these surveys were included in the analysis.

Due to the method of sampling used, and since potential participants may have belonged to more than one organisation, association or interest group, it was difficult to determine the exact number of occupational therapists to whom the questionnaires were sent. The total number of occupational therapists who registered an interest in the WP field with OTASA (n=1193) was therefore considered to be the baseline for establishing the response rate of this population. Based on these figures, a response rate of 9.1% was obtained. This is discussed further in Chapter 5.

4.3 Demographic profile of respondents

All participants, apart from one, were female. Sixty-four participants qualified before 2000, with the remaining 45 qualifying after 2001. Participants had an average of 15.8 (SD = 9.2) years of general experience in occupational therapy. The minimum years qualified was two, and the maximum was 39 as shown in Figure 1.

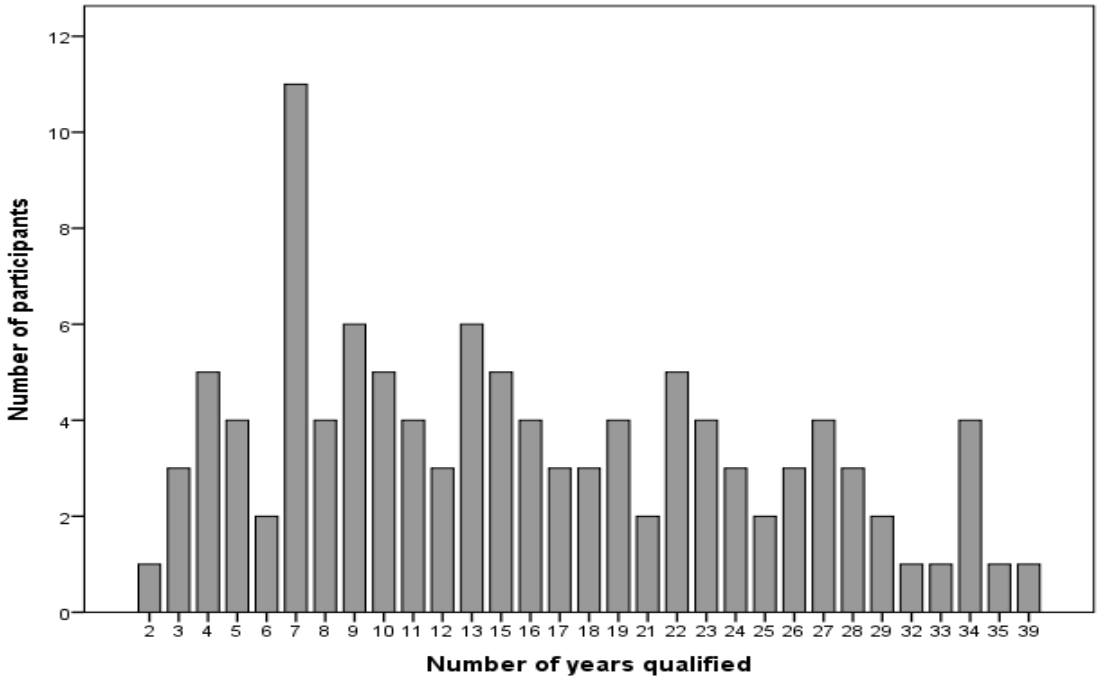

Figure 1: Years Qualified (N=109)

As can be seen in Figure 2, the average experience in the field of WP was 10.2 (SD=7.6) years with the minimum being one and the maximum 34 years.

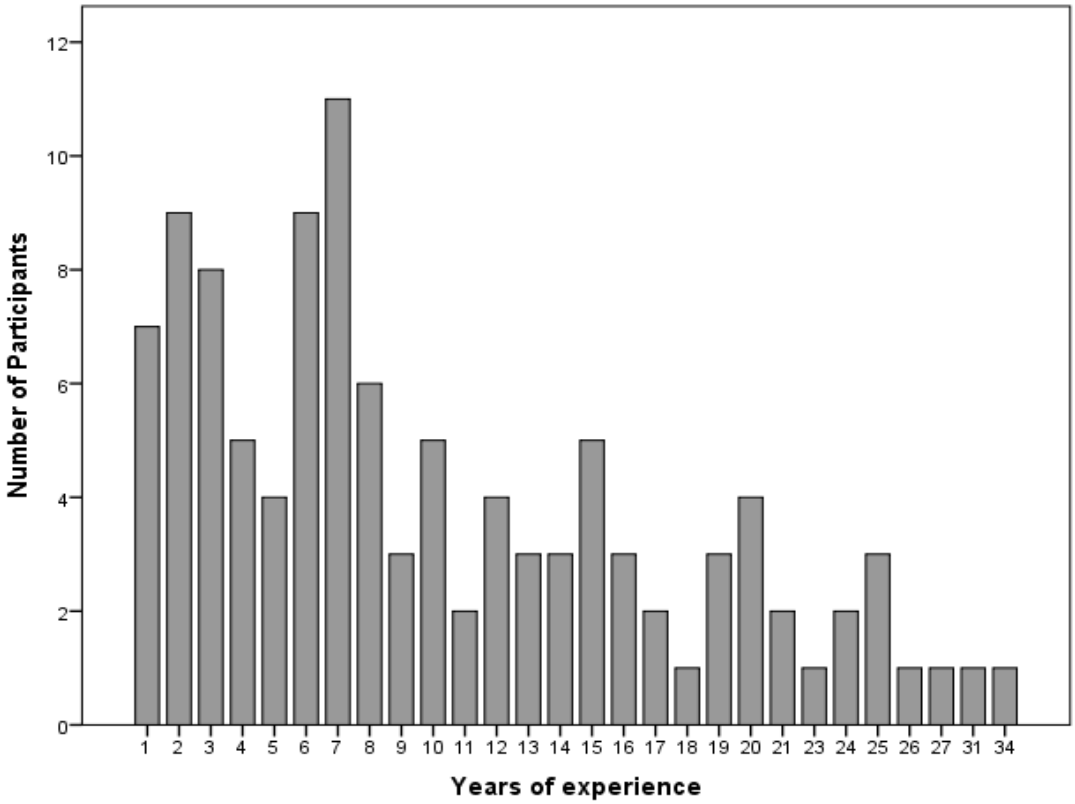

Figure 2: Years of Experience in WP (N=109)

Most participants obtained their primary occupational therapy degree at the University of Pretoria (n=26), followed by Stellenbosch University (n=24), the University of the Witwatersrand (n=17) and the University of the Free State (n=16). The least represented institutions included the University of Limpopo (n=3), University of Kwazulu-Natal (n=5), University of the Western Cape (n=5) and the University of Cape Town (n=12).

A total of 38 (35%) participants held additional qualifications, although not all were directly related to the field of WP. Figure 3 shows the type of postgraduate qualifications held by participants. Twenty three (21%) obtained a Postgraduate Diploma (PG Dip) in Vocational Rehabilitation and three participants obtained a Master's degree in Vocational Rehabilitation. Most of the postgraduate qualifications, constituting 25 (23%) of participants, were obtained at the University of Pretoria (UP). Other postgraduate qualifications, not directly related to the field of occupational therapy or WP, but which are considered to complement participants' skills set, include a Bachelor of Commerce (n=1) a qualification in Law and Finance (n=1) and a Master's in Business Administration (MBA) (n=2).

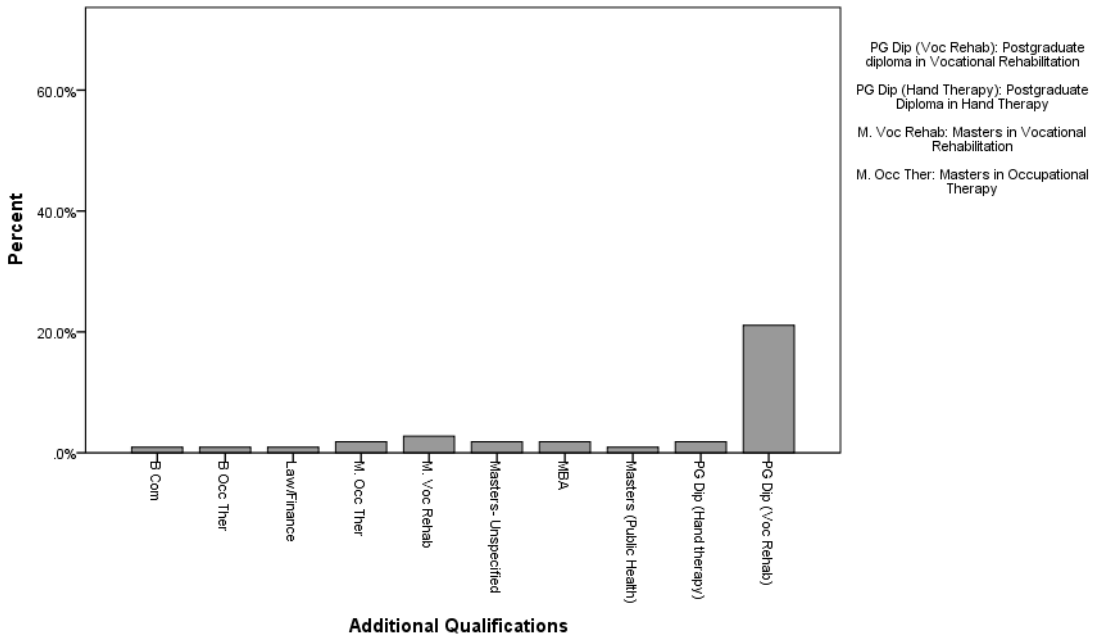

Figure 3: Additional Qualifications (N=109)

Participants had attended a variety of continuing professional development (CPD) courses in the field of WP. Responses were grouped according to general themes (See Table 4). A high number of participants (n=53) indicated that they had attended one or more courses related to FCEs, of which the Workwell FCE protocol was the most frequently attended (34%). After FCE courses, the most frequently attended CPD courses were related to the medical legal field. A disproportionately low number of participants had attended courses focusing on work rehabilitation (n=11) such as return to work (2%) and pain management (7%). There was almost no focus on courses involving prevention of injuries in the workplace (1%).

Table 4: Continuing professional development courses attended (N=109)

Themes	*Categories*	*No. (%)*
Functional Capacity Evaluation (n=53)	Workwell FCE protocol	37 (34%)
	FCEs -Justifying, selecting and using assessments (Dr T. Cambpell)	19 (17%)
	Ergoscience FCE protocol	13 (12%)
	Joule FCE	2 (2%)
	BTE FCE	1 (1%)
	Other South African based FCE training	9 (8%)
Assessment (n=8)	Ergonomics	4 (4%)
	Job Analysis	2 (2%)
	Driving Assessment	2 (2%)
Health and Safety (n=7)	Occupational Health	2 (2%)
	Labour legislation	4 (4%)
	Prevention	1 (%)
Medical Legal Training (n=26)	Medical legal specific courses	33 (30%)
Work Rehabilitation (n=11)	Return to work	2 (2%)
	Pain Management	8 (7%)
	Mental Health in the workplace	2 (2%)
Other (n=13)	Non-Work practice related	16 (15%)

4.4 Work Practice Services

Services related to WP were delivered in a variety of settings. This section describes the settings in which WP services are delivered in South Africa. The difference between private and public sector settings is also discussed.

4.4.1 Types of Work Practice (WP) Settings

Table 5 illustrates the frequency with which occupational therapists frequently provided WP services in different settings over the twelve-month period preceding data collection.

The top three settings in which participants frequently provided WP services were private sector vocational evaluation units (44%), corporate companies (for example, banking and insurance companies) (27%) and private sector work rehabilitation units (26%)

Table 5: Types of work practice settings (N=109)

Work practice settings	*Never No. (%)*	*Occasionally No. (%)*	*Frequently No. (%)*
General Hospital setting (Private Sector)	75 (69%)	15 (14%)	19 (17%)
General Hospital Setting (Public Sector)	**99 (91%)**	4 (4%)	7 (6%)
Specialised Rehabilitation (Private Sector)	70 (64%)	14 (13%)	25 (23%)
Specialised Rehabilitation (Public Sector)	**100 (92%)**	4 (4%)	5 (5%)
Work rehabilitation (Private Sector)	57 (52%)	24 (22%)	**28 (26%)**
Work rehabilitation (Public Sector)	**101 (93%)**	4 (4%)	4 (4%)
Vocational evaluation unit (Private Sector)	46 (42%)	15 (14%)	**48 (44%)**
Vocational evaluation unit (Public Sector)	94 (86%)	5 (5%)	10 (9%)
Corporate Company (e.g. Insurance provider, banking service, etc.)	58 (53%)	22 (20%)	**29 (27%)**
Non-Government Organisation	90 (83%)	7 (6%)	12 (11%)
Other	81 (74%)	5 (5%)	23 (21%)

More than half of participants had never worked in any of the settings. At least 90% of participants had never worked in public sector, general hospital settings (91%), public sector specialised rehabilitation centres (92%) and public sector work rehabilitation units (93%).

Twenty-eight participants selected various other WP settings. Twenty-four participant responses were grouped according to common themes. The remaining four responses were disregarded as the services provided were not related to WP. Three additional settings emerged from post-coding analysis as illustrated in Table 6 below.

Table 6: Other work practice settings (N=109)

Themes	*Categories*	*No.(%)*
Education	Based at University	1 (1%)
	Based at Department of Education	2 (2%)
	Further Education and Training College	1(1%)
Private practice	Medical Legal Practice (only medical legal cases)	6 (5.5%)
	Independent practice (other work injury/illness cases)	11 (10.1%)
Other WP settings	Industrial Setting (e.g. mining industry)	1 (0.9%)
	Military setting	1 (0.9%)
	Doctor's Surgery (not linked to a private sector)	1 (0.9%)

At least 10.1% described the setting in which they deliver services as an independent practice, while 5.5% of participants described their practice setting as a medical-legal practice.

4.4.2 Types of interventions offered

Figure 4 depicts the level of focus on various types of interventions. A distinction was drawn between interventions offered to individuals and groups to further describe the difference in focus. Services receiving a strong to very strong focus as well as services which did not receive any focus are also discussed.

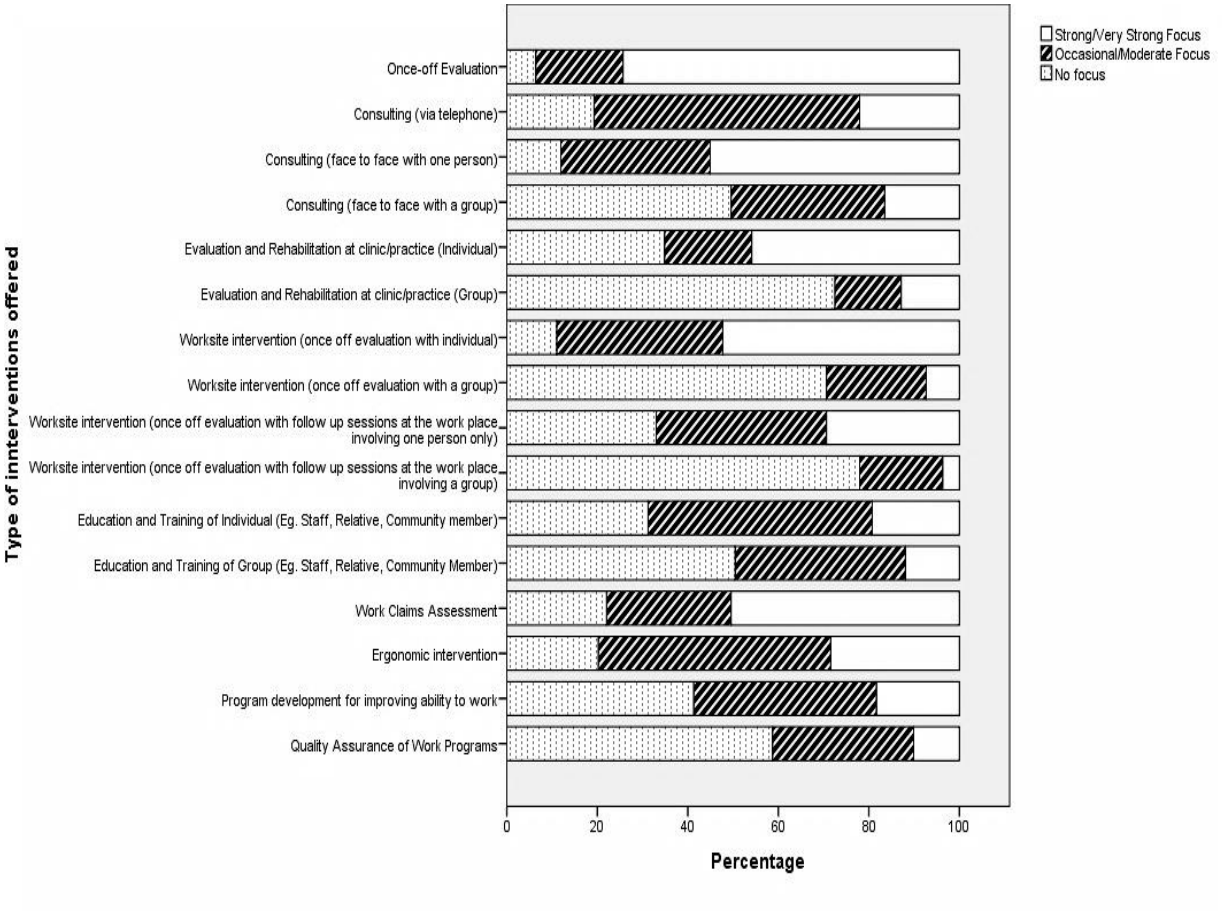

Figure 4: Types of interventions and level of focus (N=109)

There was a high level of focus on WP services involving a once-off evaluation (74% of participants. Interventions involved consulting, face-to-face sessions, meetings with one person or several people at the same time, and a telephone discussion with an individual. Face to face consultations with one person received a strong to very strong focus by 55% of participants. WP services involving the evaluation and rehabilitation of one individual, received less focus compared to services focusing on a once-off evaluation, with only 46% of participants indicating a strong to very strong focus on this type of intervention.

Work claims assessment services and ergonomic interventions received relatively strong attention by participants with at least 50% having a strong to very strong focus on these interventions.

Fifteen participants described other WP intervention services. Ten responses were disregarded as they did not have relevance to WP services and/or were already listed as a service in the survey. The remaining five responses were categorised according to common themes: accessibility consulting (1.8%), disability consulting (0.9%) and business consulting (0.9%) which focuses on occupation and incapacity, were listed as alternative WP services.

4.4.3 Services offered/provided

This section describes WP services provided by participants. These are divided into three broad categories, namely WP services involving (i) evaluation; (ii) treatment and rehabilitation; and (iii) prevention. Information is presented based on the frequency with which participants provide the different services.

4.4.3.1 Evaluation

Figure 5, illustrates the frequency by which evaluation services are delivered.

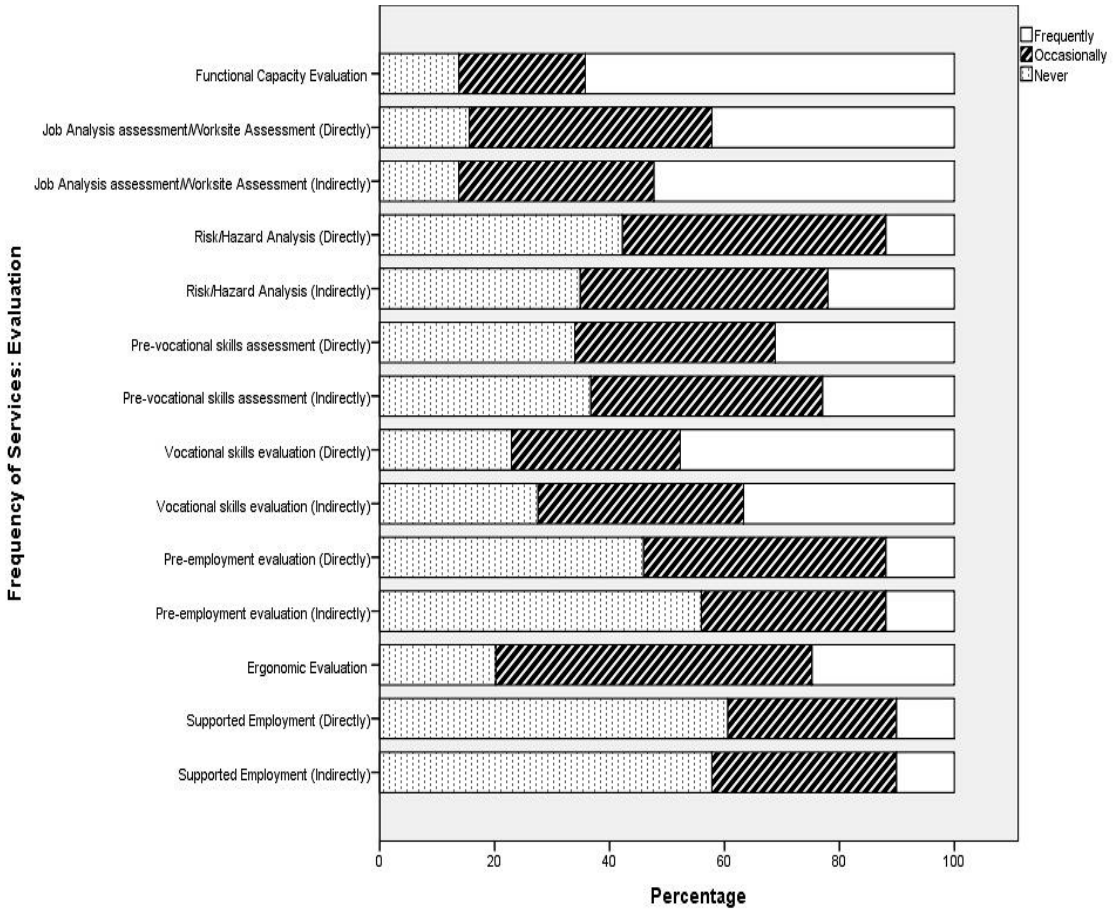

Figure 5: Frequency of providing evaluation services (N=109)

FCEs were the most frequently delivered of all types of evaluation services with sixty four percent of participants indicating that they offer this service frequently.

Job Analysis/Worksite assessments were the second most frequently provided evaluation services with a total of 52% providing this service indirectly on a frequent basis and 42% providing the service frequently on a direct basis.

Twenty percent and fewer participants never provided evaluation services such as ergonomic evaluations (20%), FCEs (14%), job analysis/worksite assessment, directly (16%) or indirectly (14%).

4.4.3.2 Treatment/Rehabilitation

Figure 6 indicates the frequency with which participants provided treatment and rehabilitation services. A distinction is drawn between WP services provided in a clinic/practice setting and those provided directly at an employee's place of work.

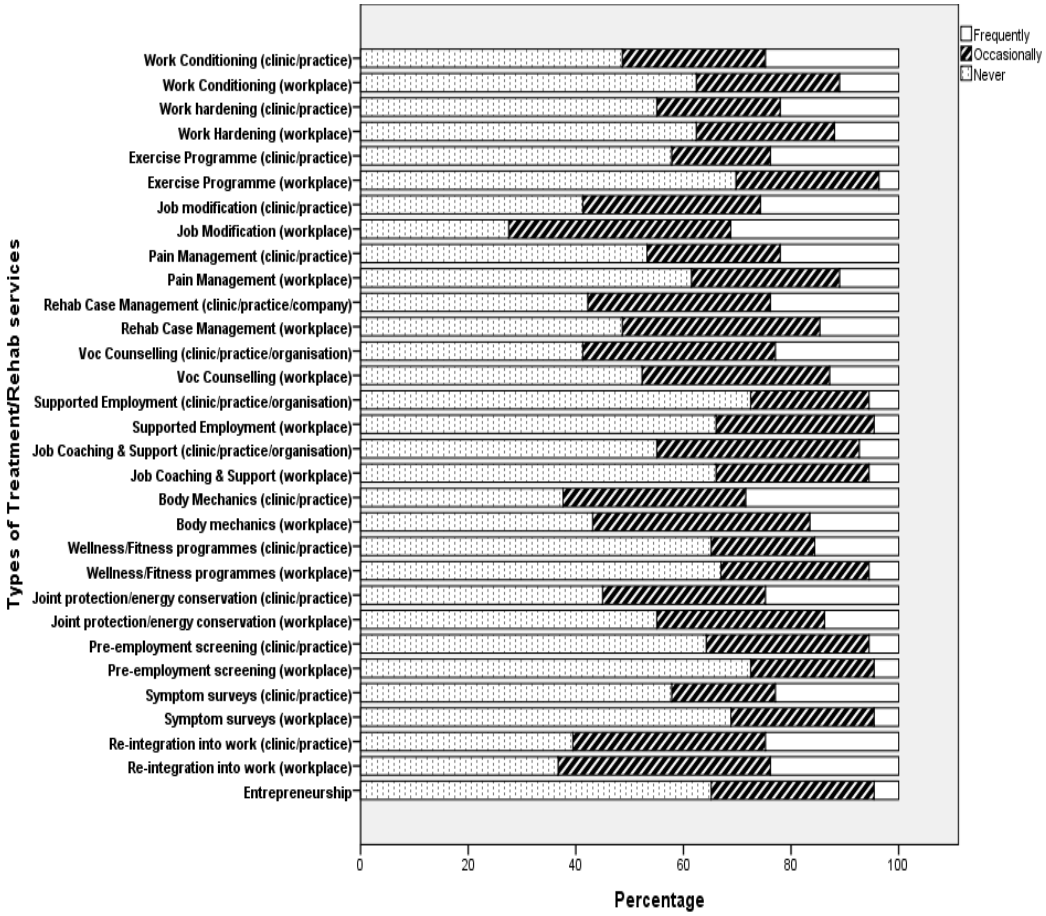

Figure 6: Frequency of providing treatment and rehabilitation services (N=109)

Thirty-one percent and fewer participants provided rehabilitation and treatment services frequently, indicating that very few focused on such interventions. Of those participants that did offer rehabilitation and treatment services on a regular basis only 25% offered work-conditioning and job-modification, (26%), joint protection/energy conservation programmes (25%) and re-integration programmes (25%) at a clinic/ practice.

Sixty five percent and more never provided supported employment services, job coaching and support at an employee's place of work (66%), wellness/fitness programmes, or administered symptom/discomfort screenings at the workplace (69%).

4.4.3.3 Prevention

Table 7 shows the prevention services delivered frequently, occasionally or never by participants. Only twenty five percent of participants focused on ergonomics and joint protection/conservation programmes frequently. More than 40% never focused on disability awareness training (43%), body mechanics/back school (43%), joint protection/conservation programmes and nutritional advice (59%).

Table 7: Prevention/Education/Training services delivered according to frequency (N=109)

Service	*Never No. (%)*	*Occasionally No. (%)*	*Frequently No. (%)*
Ergonomics	29 (27%)	53 (49%)	**27 (25%)**
Disability Awareness Training	**47 (43%)**	43 (39%)	19 (17%)
Body Mechanics/Back School	**47 (43%)**	41 (38%)	21 (19%)
Repetitive Strain Clinic	73 (67%)	28 (26%)	8 (7%)
Wellness/Fitness Programmes	63 (58%)	26 (24%)	20 (18%)
Joint Protection/Conservation	**46 (42%)**	36 (33%)	**27 (25%)**
Stress Management	43 (39%)	43 (39%)	24 (22%)
Nutritional advice	**64 (59%)**	40 (37%)	5 (5%)
Other	96 (88%)	4 (4%)	9 (8%)

Sixteen of the 109 participants selected 'other prevention/education/training' services not listed in the survey instrument. Three responses were disregarded as they either listed services that were already included or that had no relevance to WP. Two additional services that emerged from the post-coding analysis were employer training (10/109, 10%) and Life Skills training (6/109, 6%). Further analysis of each theme revealed the categories illustrated in Table 8.

Table 8: Additional training/education/prevention services listed

Themes	*Categories*	*No. (%)*
Employer training	Education of Human Resources / Line Management regarding workplace accommodations, functional job requirements	2 (2%)
	Business workshops in respect of claims management	1 (1%)
	Informative sessions regarding the management of employee with disabilities/Injuries	4 (4%)
	Legislative training (e.g. COIDA* training, Absenteeism, Incapacity)	3(3%)
Life Skills training	Facilitate development of work habits	3 (3%)
	Work Skills training for youth/learners with disabilities	2 (2%)
	Balanced lifestyle training	1 (1%)

* *Compensation of occupational injuries and diseases act*

4.4.3.4 Other work practice services

Participants were requested to indicate whether they provide additional WP services, other than the services listed in the survey instrument under the categories Evaluation, Treatment and Rehabilitation. Eighteen out of 109 participants listed additional WP services. Sixteen responses were disregarded as they were already listed as a WP service and/or did not have relevance to the question. Two participants indicated that they provided disability management services. This involved performance management in the workplace, advocating for workers with disabilities and providing employer support with respect to work placements as well as requirements to provide internships/apprenticeships for people with disabilities.

4.4.4 Follow-Up Services

This section discusses the types and frequency of follow-up services utilised by participants. Follow-up services are distinct from intervention services in that they are services provided once an intervention (e.g. evaluation, treatment/rehabilitation) has been completed.

4.4.4.1 Type of Follow-up Services

Table 9 depicts the type of follow-up services frequently rendered by participants. The most frequent methods were telephone calls to employers (41%) and employees (28%). Although some interventions occurred at the employee's place of work, 37% of participants never administered face-to-face follow-up sessions at the employee's workplace.

Table 9: Type of follow up sessions provided by participants (N=109)

Service	*Never n (%)*	*Occasionally n (%)*	*Frequently n (%)*
Telephone (Employee)	16 (15%)	63 (58%)	**31 (28%)**
Telephone (Relative)	35 (32%)	66 (61%)	8 (7%)
Telephone (Employer)	19 (17%)	46 (42%)	**45 (41%)**
Face to Face (At Clinic/Practice)	35 (32%)	46 (42%)	28 (26%)
Face to Face (at place of work)	**40 (37%)**	56 (51%)	13 (12%)
Face to Face (at employee's home)	70 (64%)	37 (34%)	2 (2%)
Other	96 (88%)	7 (6%)	7 (6%)

Fourteen of 109 participants listed 'other' follow-up services not indicated on the survey instrument. Four responses were already listed as a follow-up service and/or did not have relevance to WP and were disregarded. Four additional follow-up services emerged from the post-coding analysis including electronic follow-up (5/109, 5%), community centre follow-up (1%), contacting referring source (3%) and meeting with employer key stakeholders (1%). Themes and categories for each theme are illustrated in table 10.

Table 10: Types of follow-up service additionally provided (N=109)

Themes	*Categories*	*No. (%)*
Electronic follow-up	Family sessions via skype	1 (1%)
	Email to Employer	3 (3%)
	Contact with employee via text messaging	1 (1%)
Community centre follow-up	Support visits at community centre	1 (1%)
Referring Source	Referring doctor/medical practitioner/health care provider	3 (3%)
Meeting with employer stakeholders	Case management meeting with key stakeholders (e.g. medical practitioners, supervisor and human resource management.	1 (1%)

4.4.4.2 Frequency of Follow-up Services

Figure 7 illustrates the frequency with which participants' administer follow up services. The frequency of follow-up services, utilised the most was both weekly (25%) and monthly follow-up (27%) services. At least 50% and more of participants hardly ever administered follow-up services between 3 and 12 months following an intervention.

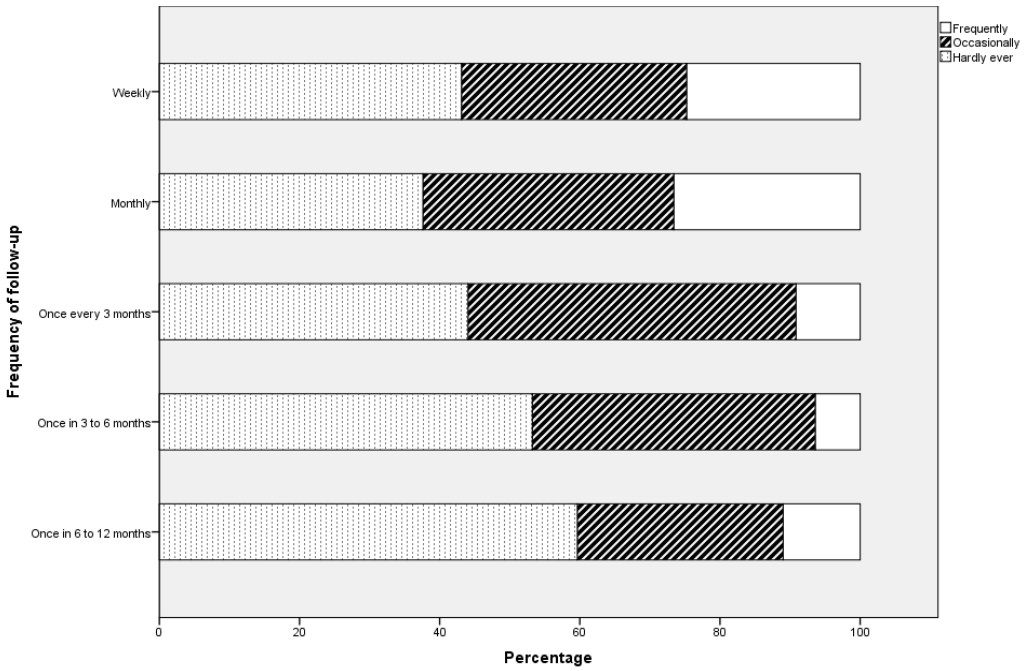

Figure 7: Frequency of follow-up services provided (N=109)

4.4.5 Outcomes following work practice interventions

Outcomes for WP vary based on the intervention offered. The type of intervention provided usually dictates the type of outcome. This section describes the level of focus on various key WP outcomes. More than 50% of participants focused on improving abilities (59%), quality of life (50%) and coping strategies/self-management strategies on a frequent basis (54%). The

outcomes involving the employee and those outcomes benefiting the employer are discussed separately in the next section.

4.4.5.1 Employee-specific outcomes

Table 11 depicts outcomes, specifically relating to the employee. Most participants (73%) had a strong to very strong focus on returning the employee to the same employment and same job role with accommodations, compared to 66% with a strong to very strong focus on returning the employee to the same employer, performing the same job role with no accommodations. A relatively low number of participants (n=20) had a strong to very strong focus on returning the employee to a different employer, performing a different job role.

Table 11: Employee specific outcomes (N=109)

Employee specific Outcomes	*No focus n (%)*	*Occasional/Moderate Focus n (%)*	*Strong/Very Strong Focus n (%)*
Return to the same employer (same job)	12 (11%)	25 (23%)	**72 (66%)**
Return to the same employment and same job, but with accommodations	11 (10%)	19 (17%)	**80 (73%)**
Return to same employer (different job)	13 (12%)	44 (40%)	52 (48%)
Return to different employer (same job)	31 (28%)	60 (55%)	19 (17%)
Return to different employer (different job)	32 (29%)	57 (52%)	**20 (18%)**
Successful job placement	24 (22%)	38 (35%)	47 (43%)

4.4.5.2 Employer-specific outcomes

Outcomes benefiting the employer are illustrated in Table 12 below. A total of 51% of participants indicated a strong to very strong focus on employer specific outcomes involving the improvement of employee productivity at work. More than 40% (n=48) focused on the reduction of injuries in the workplace, improving job retention in a specific role (44%) and/or improving awareness of the application of ergonomics (45%).

Table 12: Employer Specific Outcomes (N=109)

Employer Specific Outcomes	*Never n (%)*	*Occasional/Moderate Focus n (%)*	*Strong/Very Strong Focus n (%)*
Reducing the risk of injury at the workplace	21 (19%)	40 (37%)	**48 (44%)**
Improving awareness of the application of ergonomics	17 (16%)	43 (39%)	**49 (45%)**
Reducing sick absence	31 (28%)	36 (33%)	43 (39%)
Improving employee productivity at work	22 (20%)	31 (28%)	**56 (51%)**
Improving job retention in a specific role	25 (23%)	36 (33%)	**48 (44%)**

4.4.6 Evidence Based Practice

Participants used a variety of resources as evidence to inform their WP service delivery. The frequency of using different types of services is depicted in Figure 8. Resources such as searching and reviewing research literature (48%), liaising with a specialist in the field of WP

(55%) and/or attending specialist courses or workshops in South Africa (50%) were utilised frequently. Services never used by 40% or more of participants included the attendance of specialist courses/workshops internationally and/or pursuing post-graduate studies.

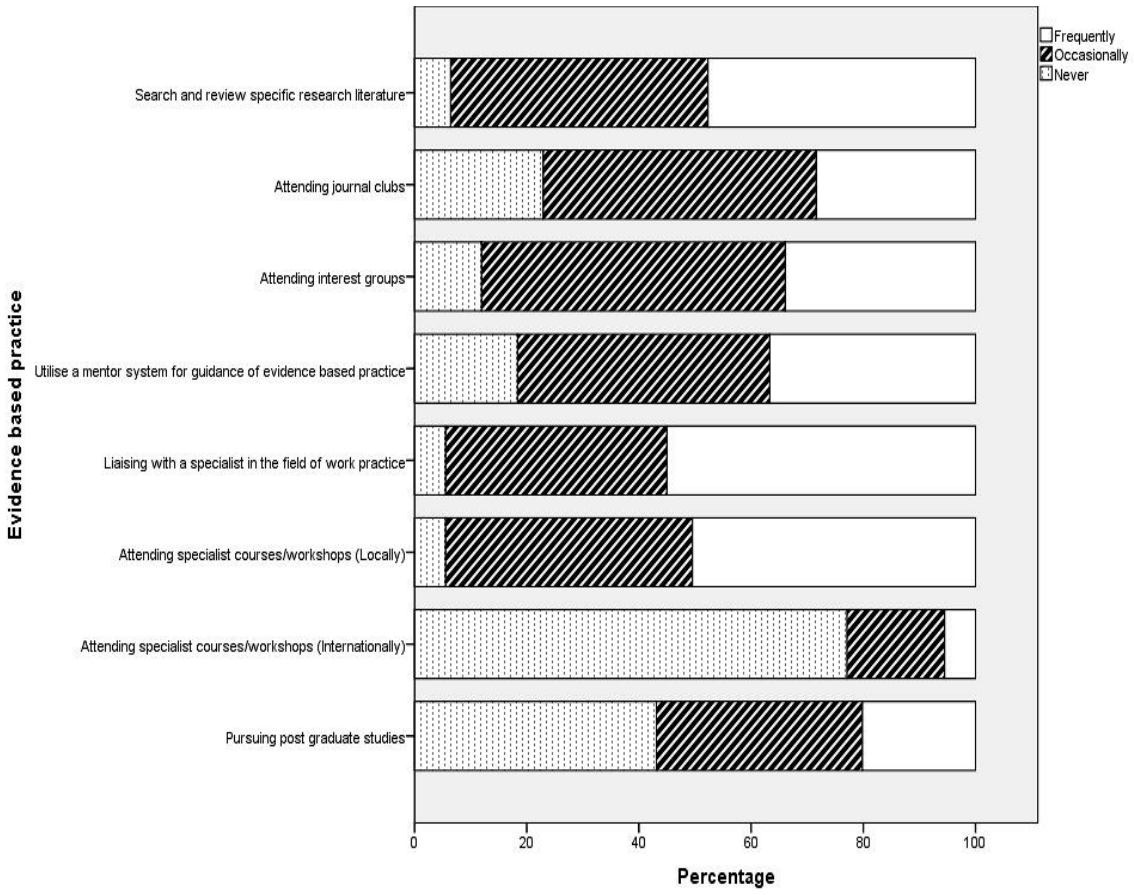

Figure 8: Evidence based practice informing service delivery (N=109)

4.5 Associations: Evaluation and Treatment/Rehabilitation

Further statistical analyses were undertaken for each of the evaluation and treatment/rehabilitation services offered, in order to determine whether there were significant associations between those offered directly and indirectly, as these were the most frequently offered services.

Comparisons could not be drawn between certain types of services (e.g. specific WP services commonly provided in certain types of settings) due to a lack of independence between the categories of interest. The same applied to establishing significant associations between service provisions in public versus private sector institutions.

4.5.1 Evaluation services provided directly versus indirectly

Results for the Chi-squared tests of association (with Fishers exact correction) to determine whether there was significant associations between services provided directly and indirectly are illustrated in Table 13.

Table 13: Evaluation services provided directly versus indirectly (N=109)

Variable	Indirect Services			*Chi-Squared test statistic*	*d.f.*	*p-value (Fisher's)*
Direct Services	Never No. (%)	Occasional No. (%)	Frequent No. (%)			
Job Analysis/Worksite Assessment				36.213	4	<0.0001
Never	9 (53)	5 (29)	3 (18)			
Occasionally	4 (9)	22 (48)	20 (43)			
Frequently	2 (4)	10 (22)	34 (74)			
Risk/Hazard Analysis				102.212	4	<0.0001
Never	36 (78)	8 (17)	2 (4)			
Occasionally	2 (4)	38 (76)	10 (20)			
Frequently	0 (0)	1 (8)	12 (92)			
Pre-Vocational skills evaluation				52.152	4	<0.0001
Never	28 (76)	8 (22)	1 (3)			
Occasionally	9 (24)	38 (61)	10 (16)			
Frequently	3 (9)	1 (38)	12 (53)			
Vocational skills evaluation				50.970	4	<0.0001
Never	18 (72)	6 (24)	1 (4)			
Occasionally	3 (9)	21 (66)	8 (25)			
Frequently	9(17)	12 (23)	31(60)			
Pre-employment evaluation				118.564	4	<0.0001
Never	46 (92)	4 (8)	0 (0)			
Occasionally	13 (16)	31 (67)	2 (4)			
Frequently	2 (15)	0 (0)	11(84)			
Supported Employment				108.484	4	<0.0001
Never	58 (88)	7 (11)	1 (2)			
Occasionally	4 (13)	26 (81)	2 (6)			
Frequently	1 (9)	2 (18)	8 (73)			

* Percentages in brackets are row percentages, N=109

Significant p-values were found between each type of evaluation offered, indicating an association between the frequencies with which services were offered directly, compared with those offered indirectly. The frequencies and (row) percentages in Table 13 show that participants that never offered a service directly were also most likely not to offer that service indirectly. Similarly, those that frequently offer the service directly are also most likely to frequently offer the service indirectly.

4.5.2 Work practice settings and Functional Capacity Evaluations (FCEs)

Since FCEs were the services most frequently used by participants, chi-squared tests of association (with Fisher's exact correction where appropriate) and contingency tables were used to determine whether there were any significant associations between the frequency of providing FCE services and the frequency of using each of the WP settings.

The results indicated that the frequency of using general hospital settings (private sector) was significantly associated with the frequency of FCEs (p=0.049) as shown in Table 14[1]. Of those that never work in this setting, 17% never deliver an FCE, compared to 7% of those that occasionally use this setting, and 5% of those that frequently use this setting.

Table 14: Frequency of using General Private Hospital Setting and FCEs (N=109)

Variable		*Functional Capacity Evaluation*			
		Never No. (%)	*Occasionally No. (%)*	*Frequently No. (%)*	*Total*
General Hospital setting (Private Sector)	*Never*	13 (17)	11 (15)	51 (68)	75
	Occasionally	1 (7)	7 (47)	7 (47)	15
	Frequently	1 (5)	6 (32)	12 (63)	19
Total		15	24	70	109

$\chi^2 = 9.900, (df = 4), p = 0.042, Fisher's\ p = 0.049$

The frequency of using vocational evaluation units (private Sector) was significantly associated with the frequency of FCEs (p<0.0001) as shown in Table 15[2]. Of those that never work in this setting, 30% never deliver an FCE, compared to 0% of those that occasionally use this setting, and 2% of those that frequently use this setting.

Table 15: Private sector vocational evaluation unit and FCEs (N=109)

Variable		*Functional Capacity Evaluation*			
		Never No (%)	*Occasionally No (%)*	*Frequently No (%)*	*Total*
Vocational evaluation unit (Private Sector)	*Never*	14 (30)	10 (22)	22 (48)	46
	Occasionally	0 (0)	7 (47)	8 (53)	15
	Frequently	1 (2)	7 (15)	40 (83)	48
Total		15	24	70	109

$\chi^2(d.f. = 4) = 26.392, p < 0.0001, Fisher's\ p < 0.0001$

There was no significant association between the frequency of FCE delivery and the frequency worked in General Hospital settings in the public sector (p=0.503), specialised rehabilitation units in the private sector (p=0.391), specialised rehabilitation units in the public sector (p=0.857), work rehabilitation units in the private sector (p=0.077), work rehabilitation

[1] The percentages quoted in Table 14 are row percentages (of those falling in a particular category for this setting, what percentage never/occasionally/frequently deliver an FCE), e.g. 17% is obtained from dividing 13 by 75, 7% by dividing 1 by 15, and 5% by dividing 1 by 19.

[2] The percentages quoted in Table 15 are row percentages (of those falling in a particular category for this setting, what percentage never/occasionally/frequently deliver an FCE), e.g. 30% is obtained from dividing 14 by 46, 0% by dividing 0 by 15, and 2% by dividing 1 by 48.

units in the public sector (p=0.615), corporate companies (p=0.471) and non- government organisations (p=0.183).

4.5.3 Treatment/Rehabilitation services provided at clinics/practices vs workplace

Chi-squared tests of association (Fishers exact correction) were used in order to determine whether there was any association between the frequencies of providing specific treatment/rehabilitation services in the workplace compared to the clinic/practice. Table 16 displays the comprehensive results of the statistical analysis that was undertaken.

Table 16: Associations between treatment/rehabilitation services provided at clinic/practice and the workplace

Variable	*At the workplace*			*Chi-Squared test statistic*	*d.f.*	*p-value (Fisher's)*
Clinic/Practice	*Never (No.(%)*	*Occasionally (No.(%)*	*Frequently (No.(%)*			
Work Conditioning				65.227	4	<0.0001
Never	50(94)	3(6)	0(0)			
Occasionally	8(28)	19(66)	2(7)			
Frequently	10(37)	7(26)	10(37)			
Work Hardening				37.584	4	<0.0001
Never	51 (85)	7(12)	2(3)			
Occasionally	8(32)	14(56)	3(12)			
Frequently	9(38)	7(29)	8(33)			
Exercise Programme				41.555	4	<0.0001
Never	57(90)	6(10)	0(0)			
Occasionally	7(35)	13(65)	0(0)			
Frequently	12(46)	10(38)	4(15)			
Job Modification/Accommodation				68.186	4	<0.0001
Never	25(56)	17(38)	3(7)			
Occasionally	3(83)	25(69)	8(22)			
Frequently	2(7)	3(11)	23(82)			
Pain Management				51.682	4	<0.0001
Never	50(86)	7(12)	1(2)			
Occasionally	13(48)	13(48)	1(4)			
Frequently	4(17)	10(42)	10(42)			
Rehabilitation Case Management				74.963	4	<0.0001
Never	38(83)	7(15)	1(2)			
Occasionally	9(24)	27(73)	1(3)			
Frequently	6(23)	8(31)	11(42)			
Vocational Counseling				43.958	4	<0.0001
Never	35(77)	8(18)	2(4)			
Occasionally	16(41)	22(56)	1(3)			
Frequently	6(24)	8(32)	11(44)			
Supported Employment				82.427	4	<0.0001
Never	69(87)	10(13)	0(0)			
Occasionally	2(8)	20(83)	2(8)			
Frequently	1(17)	2(33)	3(50)			
Job Coaching and support				91.750	4	<0.0001
Never	58(10)	1(2)	1(2)			
Occasionally	11(27)	29(71)	1(2)			
Frequently	3(38)	1(13)	4(50)			

Variable	*At the workplace*			*Chi-Squared test statistic*	*d.f.*	*p-value (Fisher's)*
Clinic/Practice	*Never (No.(%)*	*Occasionally (No.(%)*	*Frequently (No.(%)*			
Body Mechanics/Back saving principles				78.802	4	<0.0001
Never	31(76)	10(24)	0(0)			
Occasionally	9(24)	28(76)	0(0)			
Frequently	7(23)	6(19)	18(58)			
Wellness/Fitness programmes				47.344	4	<0.0001
Never	61(86)	10(14)	0(0)			
Occasionally	7(33)	13(62)	1(5)			
Frequently	5(29)	7(41)	5(29)			
Joint Protection/Energy Conservation				58.333	4	<0.0001
Never	40(82)	9(18)	0(0)			
Occasionally	15(45)	17(52)	1(3)			
Frequently	5(19)	8(30)	14(52)			
Pre-employment screening				47.975	4	0.430
Never	64(91)	2(3)	4(6)			
Occasionally	13(39)	20(60)	0(0)			
Frequently	2(33)	3(50)	1(17)			
Symptom survey/discomfort screening				42.280	4	<0.0001
Never	57(90)	5(8)	1(2)			
Occasionally	7(33)	14(66)	0(0)			
Frequently	11(44)	10(40)	4(16)			
Re-integration into work				67.456	4	0.857
Never	29(67)	10(23)	4(9)			
Occasionally	8(21)	28(72)	3(8)			
Frequently	3(11)	5(19)	19(70)			

* Percentages in brackets are row percentages, N=109

Each of the treatment/rehabilitation services offered at a clinic/practice is significantly associated with its workplace counterpart. It appears that those that never deliver the service in a clinic/practice are also most likely to never deliver it in a workplace, and similarly, those that occasionally deliver the service in a clinic/practice are also most likely to occasionally deliver it in a workplace, and those that frequently deliver the service in a clinic/workplace are also most likely to frequently deliver it in a workplace.

4.6 Summary

A total of 109 participants submitted survey responses. Participants had a mean of 10.2 (SD=7.6) years of experience in the field of WP. Twenty-one percent specifically held a postgraduate diploma in vocational rehabilitation from the University of Pretoria. A high number of participants had attended FCE training (n=53) as part of their continuing professional development (CPD) activities, compared to a very limited proportion attending CPD courses involving work rehabilitation (n=11) and prevention (n=1).

Of concern, is the large number of participants (72%) who never offered services involving treatment and rehabilitation, suggesting an imbalance in the provision of intervention services involving the treatment and rehabilitation of injured or ill employees. More than 65% of participants had a strong to very strong focus on 'returning the employee to the same employment', 'performing a similar job role with accommodations' (73%) or 'returning the employee to the same employer, performing the same job role' (66%). The evidence-based resources that were used by more than 50% were liaison with a mentor in the field of WP (n=60) and attending specialist courses/ workshops in South Africa (n=55).

Statistical analysis indicated significant associations between each type of evaluation offered suggesting a distinct association between the frequency of services offered directly and indirectly. Significant associations were also found between the frequency of using general hospital settings (private sector) and the frequency of conducting FCEs ($p=0.049$). There were also significant associations between the frequency of use of vocational evaluation units (private sector) and the frequency of FCEs ($P<0.0001$) Furthermore, the Chi-square analyses indicated that each of the treatment/rehabilitation services offered at a clinic/practice were significantly associated with offering the same services at the workplace.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter begins by discussing the instrument design, participant population and educational qualifications held by participants. The emphasis on various work settings and interventions involving assessment, rehabilitation and prevention by participants are further analysed. Comparisons with similar studies undertaken in Australia and the United States are made. Problems pertaining to the attendance of training courses and the selection of evidence-based resources are described followed by a description of new WP services, which seems to be emerging. The chapter concludes with a discussion of the limitations of the study.

5.2 Participant profile

For several reasons it is difficult to determine the generalisability of the results to the occupational therapy population who offer WP services. Participants may have belonged to more than one organisation, interest group and/or affiliation to which the survey instrument was distributed and therefore an accurate list indicating the total of occupational therapists providing WP services is not available. There is furthermore, no single database that accurately indicates the number of occupational therapists providing services in the field of WP. According to OTASA, a total of 1193 occupational therapists have indicated an interest in WP. Although this does not imply that these occupational therapists provide WP services, it is the only measure which could be considered as a point of reference to determine an estimated response rate. However, not all occupational therapists in South Africa are members of OTASA, but may provide WP services and therefore an accurate point of reference could not be obtained.

Based on a projected number of 1193 occupational therapists that registered an interest in WP and considering the total number of participants (N=109), a response rate of 9.1% was achieved. This is lower than a similar study undertaken in Australia, which yielded a national response rate of 35.2% (Deen, Gibson & Strong, 2002), which in turn complicates the generalisability of the study. Furthermore, participants in the study may not have been members of OTASA and are therefore not necessarily part of the 1193 occupational therapists that indicated an interest in WP. This is discussed in more detail under study limitations.

A similar study undertaken in the United States indicated that a survey instrument investigating occupational therapists' involvement in work rehabilitation programmes was sent to 300 participants, who were randomly selected from 1250 members of a special interest work section mailing list (Jundt & King, 1999). The study yielded a response by 77 members, which is a response rate of 25.6%. Participants in this study were, however, self-selected and

volunteered to complete and return the survey, therefore a higher number of members may have participated if the survey was sent to all members on the mailing list.

In a similar, but substantially smaller study (n=22) undertaken in the Hong Kong Hospital Authority, a survey instrument was sent to occupational therapists working within the occupational therapy departments (n=49). A formal response rate was not reported, but can be determined from the figures provided as 44.9%. The data from this study is not considered to be as comparable as the studies undertaken in the United States and Australia; this was in view of the low response rate and the focus being only on the Hong Kong Hospital Authority and no other settings, such as non-government organisations where work rehabilitation programmes existed.

A study undertaken in South Africa of expert occupational therapists in the field of WP involved a small sample group of 27 participants (Buys & van Biljon, 2007). No information was provided to indicate the actual response rate of the study. Apart from the study being undertaken in 2004, the scope of WP services was limited considering the range of services that were considered part of WP in similar studies (Deen, Gibson & Strong, 2002; Jundt & King, 1999), pre-dating the investigation by Buys and van Biljon (2007).

Although the response rate of this study is considered low compared to the studies undertaken in Australia and the United states, the results are of some value. Notwithstanding the complications with respect to determining the sample size and subsequent response rate, the results provide an indication of existing WP services provided by occupational therapists in South Africa. The number of respondents (N=109) was four times that of a previous study in South Africa undertaken in 2004 (Buys & van Biljon, 2007). Therefore, the results are of some value in preliminary descriptions of the practice profile of occupational therapists providing WP services in South Africa.

5.3. Educational qualifications and continuing professional development (CPD) training

CPD training, which is compulsory in South Africa, was well attended by occupational therapists, with the majority of participants (75%) indicating that they had attended CPD training related to the field of WP. Similar to their Australian colleagues FCE training was the most commonly attended (49%) continuing professional development activity (Deen, Gibson & Strong, 2002).

Taking the high volume of attendance in FCEs into consideration, it is clear that these types of courses are in demand. Judging by the name of the FCE courses attended, the majority of FCE training courses were provided by companies or hosts from the United States (e.g. Work

well FCE system and ErgoScience FCE system) and/or the United Kingdom (Dr Tanya Campbell). This may imply that occupational therapists have high regard for courses offered by foreign providers and/or it may also underscore the lack of similar training delivered by local providers. Furthermore, it seems that although this type of training has been provided in countries such as the United States for several years, a gap was seen by foreign providers to deliver their and sell services in South Africa.

Since occupational therapists prioritised FCE training as at least one of the top three courses attended in relation to WP, it is clear that this type of training is highly regarded. It is, however, of concern that very few occupational therapists seem to attend training involving work rehabilitation, ergonomics and/or prevention. Since data is not available about CPD courses that are provided it is difficult to know whether the attendance may be due to a lack of interest and or a lack of opportunity.

According to a recent report by the Department of Labour, South Africa has an unemployment rate of 24.7%. It is concerning that half of unemployed people (65%) have been out of work for more than a year (Department of Labour, 2014). A report compiled by Statistics South Africa, which investigated poverty trends, indicated a poverty level of 45.5% in 2011 (Statistics SA, 2014). This is relatively in keeping with the percentage of the population (44%), reporting the receipt of social grants as their main source of income. Therefore, these results may indicate that many people are unable to secure employment and/or may have an injury or illness preventing their return to work. This in turn suggests that a considerable percentage of the population cannot contribute positively to the South African economy.

When considering the high unemployment rate and prevalence of disability in South Africa, WP services play a potentially important role in reducing the unemployment burden on the economy. Although a high number of participants frequently provided FCEs (64%), which are usually the first step in assessing a person's functional capabilities, a goal-directed work rehabilitation programme and/or work hardening, should subsequently be developed for the individual, with the view to promote return to work (Chamberlain et al., 2009; Wyrick et al., 1991; Matheson et al., 1985). However, a considerably low number of participants (≤31) provided interventions focusing on the treatment and rehabilitation of injured/disabled individuals, suggesting that further steps are not being taken to offer rehabilitation and treatment after an FCE. Such rehabilitation services commonly include work conditioning and work hardening, case management services, return to work co-ordination, transitional work options and worksite accommodations (Gobelet et al., 2007; Shrey & Hursh, 1999; Matheson et al., 1985). If these types of WP services are offered less frequently by occupational therapists, as the findings of the study suggest, then it would seem that an injustice is being done to the wider South African population. More specifically, as the services assisting with rehabilitation and re-integration of injured individuals to work are scarcely available, the wider

occupational therapy community is not providing the services needed to reduce unemployment and poverty in South Africa.

Similarly, the provision of supported employment services - which have proved to be efficient in assisting individuals with significant disabilities to secure and retain employment by optimising their integration into the workplace (Meade et al., 2006) - should receive more attention in WP service provision in South Africa. However, when considering that more than 65% of participants never provide supported employment or job coaching and support, both of which form an integral part of supported employment (Hoekstra et al., 2004), it suggests that a gap exists in the services offered. The low number of participants focused on supported employment service provision, confirms the findings of van Niekerk and colleagues, who found that this type of service has not been adopted as main-stream practice in South Africa; mainly due to barriers such as a lack of relevant legislation to guide supported employment and limited co-operation between Departments such as Social Development, Health and Labour (van Niekerk et al., 2011).

Not only are intervention services involving rehabilitation, return to work and supported employment important, but those focusing on the prevention of injuries, ergonomic consultations and promoting health and safety in the workplace are similarly important. The literature underscores occupational therapist's value in the provision of these services due to their comprehensive understanding of activity analysis, accommodations, as well as the physical and psychological domains of human performance (Bade & Eckert, 2008; Shrey & Hursh, 1999). However, when considering that less than 30% of participants frequently focused on services such as ergonomics, wellness programmes, disability awareness training and body mechanics/back school sessions, it would seem that the focus of WP service provision by occupational therapists is biased towards the assessment of injured/ill workers. If a WP service focuses largely on assessment, it suggests that many South Africans who require rehabilitation back to work are not assisted. Similarly, if prevention services are lacking, it could imply that little is done to minimise/reduce the risk of injury in the workplace.

Few occupational therapists held postgraduate qualifications relevant to the field of WP (24%). Although not formally explored in this study, it seems that most obtained their experience by working in the field for several years and/or attending CPD training. Although CPD training may equip an occupational therapist with the necessary skillset, the attendance of CPD training should cover the full array of services relevant to WP. However, if there is only a high focus on evaluation training, it implies that other types of training relevant to the field of WP (e.g. legislation relevant to work injuries, work hardening and conditioning, disability management, etc.) are being neglected. Therefore, the provision of postgraduate qualifications relevant to the field of WP adds value, as it should ensure that occupational therapists have a well-rounded education within the full scope of WP service provision.

Fewer South African occupational therapists (6%) had engaged in masters level qualifications, compared to Australian occupational therapists in the study by Deen et.al. (2002). Specifically, 14% of Australian participants held masters or honours (2%) degrees. The study did not, however, indicate the types of masters' degrees held by its participants, although it is noted that they were relevant to occupational therapy. Other postgraduate courses undertaken by Australian occupational therapists included a postgraduate diploma in Occupational Health and Safety (14%) and a graduate diploma in Ergonomics (6%). None of the participants in the South African or Australian study had doctoral qualifications.

When considering the attendance at postgraduate courses in Australia, it would seem that a wider variety of postgraduate training relevant to WP (e.g. occupational health and safety training and ergonomics) is available. The fact that none of the therapists in South Africa or Australia held a doctoral postgraduate qualification raises concern as it may suggest that the knowledge base in this field is not being developed by doctoral research.

An Australian study, which assessed the perceptions of evidence-based practice (EBP) among 649 occupational therapists, indicated that 56% relied on research to inform clinical decision-making (Bennett et al., 2003). Although most of the participants in this study relied on clinical experience, continuing education and mentorship from colleagues to inform decision making, they preferred to learn more through searching and appraising literature as part of facilitating evidence-based practice. If there is a need to search and appraise literature, then the demand for postgraduate training, whether at masters or doctoral level, remains important as further research involving WP services is necessary to inform clinical decision-making. Research, which is often undertaken at postgraduate level, is a reliable source to inform clinical practice. It is not, however, the only source of information informing clinical reasoning and should be integrated with clinical expertise, as suggested by Sackett et al. (2000).

Only two of the eight institutions in South Africa offer occupational therapy education programmes at postgraduate level specific to the field of WP. Taking into consideration that a relatively high number of occupational therapists (23%) attended the postgraduate diploma course in vocational rehabilitation at the University of Pretoria, it is possible that a greater attendance at such courses could be encouraged, if similar training is provided at other institutions which are located closer to occupational therapists in other geographical areas in the country.

Buys and Casteleijn (2007) indicate that the postgraduate diploma in vocational rehabilitation is implemented in four, one-week blocks with assignments needing to be implemented before the following block. The course content focuses on disability equity legislation such as the Labour Relations Act (Labour Relations Act, No. 66 of 1995, 2013), the Employment Equity

Act (Employment Equity Act, No. 55 of 1998, 2013) and the Promotion of Equality and Prevention of Unfair Discrimination Act (Promotion of Equality and Prevention of Unfair Discrimination Bill, No.57B of 1999, 1999), which are seen to promote the employment of people with disabilities (Strasheim, 2001; Buys & van Biljon, 1998; Strasheim & Buys, 1996). The course, furthermore, covers a variety of WP services (e.g. work hardening, case management, prevention, community based services, disability management, return to work programmes), placement strategies, protective and sheltered employment as well as supported employment. In addition, the use of groups in work rehabilitation and financial administration (e.g. overview of business management, organisational structures and macro-economics) is also covered (Buys & Casteleijn, 2007).

Since it is difficult to cover the wide variety of WP services and legislation, such as indicated by the above course content, in shorter CPD courses, exposure to postgraduate training in this field, should provide occupational therapists with the necessary skillset and confidence to implement WP services, not only focussed on evaluation, in their respective geographical areas. If this is not possible, then the attendance at masters' level postgraduate training at will at least equip occupational therapists to apply research methodology, and to search and appraise literature to inform their WP service delivery.

5.4 Work Practice Settings

The high percentage of participants that never offer WP services (≥85%) in public sector settings such as general hospitals, specialised rehabilitation centres, vocational evaluation units and/or work rehabilitation units, is of concern. The results are concerning as it could suggest that settings focusing on WP services in the public sector are scarce. It could also indicate that WP services do not receive much attention in public sector settings.

Seventy-four percent of participants had a strong to very strong focus on the provision of once-off evaluations, followed by no further interventions. In contrast, 46% had a strong to very strong focus on evaluation and rehabilitation services, while only 19% strongly focused on education and training services. Therefore, considerable emphasis seems to be placed on the evaluation of an individual as opposed to rehabilitation, which assists to return an individual back to work or education and training services, which help to prevent injuries in the workplace. Of those participants that did offer treatment/rehabilitation services, a relatively low percentage (≤ 30%) frequently offered work conditioning, job modification, joint protection and re-integration programmes, ergonomics, stress management and wellness/fitness programmes. If few occupational therapists are providing such services, as this participant group seems to suggest, then it indicates that many injured/ill individuals are potentially not offered services which are important for return to work and the prevention of injuries/illnesses.

According to the South African General household survey (Statistics South Africa, 2014), at least 69.6% of the population will first visit a public hospital or clinic and 91.1% will travel to their nearest facility when falling ill. Only 24.5% of households have one member belonging to a medical aid, indicating that they have access to private medical care. Therefore, a large proportion of the population may not readily have access to medical and rehabilitation services, which could otherwise be accessed sooner in the private sector. As an example, an MRI scan could be arranged within a couple of days if an individual has medical aid cover, as opposed to an individual who does not. Such an individual will have to wait several months before an MRI scan can be offered through the public sector.

The study results reflect that the majority of the South African population access public services, rather than private services as the first port of call, since they do not have medical aid cover. Therefore, when considering that a large percentage of the South African population does not have access to private sector health care services, the availability of practice settings specifically focusing on work rehabilitation in the public sector and the area in which they are located, requires investigation. If such settings are indeed very limited and/or are centralised in certain areas (e.g. metropolitan areas), a large percentage of the population are denied access to such services. Furthermore, if access to work rehabilitation services is truly limited for the broader population, it may indirectly contribute to an increase in social grants and add to the already high unemployment rate (24.7%) in South Africa.

When considering the development of National Health Insurance (NHI) (Department of Health: *Green paper on the National Health Insurance policy in South Africa*, 2011), the availability and provision of WP services within this health insurance should receive urgent attention by OTASA in order to ensure that it is reflected in the NHI Green paper. Since the aim of the NHI is to provide a structured, uniform health system with a view to address socio-economic injustices, imbalances and inequities of health services in the past, health care will be provided through accredited public and private sector providers with a strong focus on prevention and health promotion at household and community level (Matsoso, 2013). However, if WP services, such as work rehabilitation and prevention are rarely offered by providers, and most occupational therapists focus on assessments rather than services involving rehabilitation and prevention or health promotion, then the wider South African population will be denied access to WP services. If the occurrence of injuries in the workplace is not minimised and/or individuals are not rehabilitated back to work, it inadvertently results in individuals being unemployed and who cannot sustain their cost of living.

A relatively high percentage of participants frequently render services in private sector evaluation units (44%), compared to only 26% of participants frequently rendering services in work rehabilitation settings. More than half of participants (52%) never work in private sector work rehabilitation settings, suggesting that such settings may be scarcely available in the private sector. Although a higher number of participants indicated that they frequently render

services in private sector work rehabilitation settings compared to public sector work rehabilitation settings (4%), the results highlight that settings focusing on work rehabilitation are also limited in the private sector. Therefore, the South African population in general, whether having access to private or public sector facilities, is denied access to a WP services focusing on work rehabilitation, which could otherwise have assisted with return to and/or retention of gainful employment. Apart from having limited access, the availability of work rehabilitation settings nationally appears to be limited.

Furthermore, the considerable disparity between participant responses of those working in settings focusing on evaluation (e.g. FCEs, worksite evaluations, risk/hazard analysis) versus those rendering services in rehabilitation settings (whether in the public or private sector), suggests that there may be an imbalance in service delivery by occupational therapists. As an example, if the majority of occupational therapists focus on the provision of evaluation services (e.g. once-off FCE or a once-off worksite evaluation), but offer no further intervention(s) to address an employee's limitations, then it implies that work rehabilitation services are limited in assisting return to work. Even though evaluation services are helpful in understanding an employee's capabilities and restrictions, and recommendations are provided following an evaluation to indicate how best manage the employee's condition (Chamberlain et al., 2009; Buys & van Biljon, 2007), the aforesaid interventions cannot be implemented if there are few or no providers offering work rehabilitation services. Therefore referral options to relevant intervention services may be limited. This imbalance in service delivery is further discussed in the subsequent section of the chapter.

5.5 Service provision

5.5.1 Assessment/Rehabilitation/Prevention

The high attendance at FCE and medical legal training courses, such as highlighted earlier in this chapter, supports the results indicating that a high number of participants have a strong to very strong focus on once-off evaluations (74%). It suggests that a significant emphasis is placed on the evaluation of injured or ill employees, rather than facilitating return to work. This is highly likely because it is more lucrative to work with referral sources such as insurance providers and attorneys who often refer their clients for these assessments.

Although not directly explored, the study results also suggest that, similar to our international colleagues, FCEs are frequently used in South Africa. FCEs are commonly used in the context of litigation involving an injured employee's prospects to return to work and projected loss of earnings, as indicated by Innes and Straker (2002). It therefore supports the notion that many occupational therapists in South Africa have aligned their service provision in such a way that they focus predominantly on the delivery of FCEs. Services, where referring clients are prepared to pay, seem to be offered by occupational therapists, resulting in a large area of

work-related services being neglected, such as creating employment opportunities, and developing health promotion/prevention services.

As already highlighted, this investigation confirms that FCEs are the services most frequently delivered by participants, followed by job analysis/worksite assessment services provided directly and indirectly. Although there was not a large discrepancy between job analysis/worksite assessments provided directly or indirectly, it raises concern that such a large number of participants (52%) frequently offer this service indirectly. More specifically, the accuracy of such analysis could be compromised when not provided directly at an employee's place of work. The assessing occupational therapist would, furthermore, have to rely on subjective information, provided by either the employee or the employer, about a particular job role. Even though certain job roles may be similar in nature, an objective assessment is require at the workplace as interactions between the employee, the job that is performed, and the working environment differs (Innes & Straker, 2002). It is also not possible to offer an accurate depiction of working conditions by providing the workplace assessment 'indirectly', neither can the opportunity be utilised to forge relationships with the employer, supervisor and union, if applicable (WorkCover, 1998). It is the occupational therapists' responsibility to ensure that the referring source understands the need to conduct a workplace assessment at a client's place of work. It will furthermore be helpful if a minimum standard guideline is available to assist occupational therapists with the provision of such services directly. This task could be provided to a WP interest group for further development.

Similar to our colleagues in the United States and Australia, FCEs were the most frequently offered assessment service. At least 91% of American occupational therapists provided this type of service, compared to 83% of Australian occupational therapists, although caution should be applied when making a direct comparison. There does, however, seem to be an international trend in the value placed on FCEs. Unfortunately, it seems that South African occupational therapists are not reflecting on the WP needs of the population if one considers that some WP services are currently neglected.

Although valuable information can be obtained from FCEs, it is of concern that such a large emphasis is placed on these evaluations, especially considering questions that have been raised regarding the reliability and validity of FCE protocols such as were analysed and discussed at length by Genovese and Galper (2009). Although it is not within the scope of this study to investigate all problems concerning FCEs, some of the issues that have been raised concern the length of administration; unreliable procedures used in certain tests; the lack of practice standards for the administration of FCE's to ensure client safety; uncertainty regarding the type of qualification of the evaluator; and, the length of training that the therapist should be subjected to in order to safely administer an FCE. (King, Tuckwell & Barrett, 1998; Isernhagen, 1993; Lechner, Roth & Straaton, 1991)

Vocational skills evaluation services provided directly by South African occupational therapists, were delivered relatively frequently by at least 48% of participants, followed by 29% occasionally delivering this service. Only 23% of occupational therapists in the United States offered this service, suggesting that much less emphasis is placed on this type of assessment. The results may, however, confirm that this type of evaluation has received an increasing level of attention by occupational therapists over the past couple of years, considering that the study in the United States was administered before 2000.

In contrast to the high number of participants indicating frequent service provision of various evaluation services, less than 25% of participants frequently delivered treatment/rehabilitation services such as work conditioning, work hardening, pain management and vocational counseling at their clinic or practice. Such services specifically assist the injured or ill employee to resume gainful employment (Niemeyer et al., 1994; Wyrick et al., 1991; Matheson et al., 1985). The literature underscores the relevance of these services to rehabilitate injured individuals back to work and the important value placed on occupational therapists' role in the provision of these types of services, yet it seems that few occupational therapists in South Africa frequently engage in service provision involving the recovery of the injures/ill worker and re-integration back to work (Bade & Eckert, 2008; Gobelet et al., 2007). Possible reasons may include a lack of knowledge and skills in the implementation of rehabilitation services. Furthermore, work rehabilitation centres offering work hardening and conditioning often require larger premises as well as a variety of tests and work simulation equipment, which is very costly. Therefore, from a financial perspective it may be difficult for occupational therapists to secure financial support to implement such services. Other occupational therapists may purposefully decide not to work with the compensation commissioner due to the volume of administrative work involved to obtain re-imbursement for services rendered involving employees' who sustained injuries at work.

Although direct comparisons are applied with considerable caution, the results suggest that similar to our colleagues in the United States, South African occupational therapists place a relatively strong emphasis on the provision of assessment and rehabilitation services at clinic/practices rather than the workplace, such as our Australian counterparts do (Deen, Gibson & Strong, 2002). It is important to note that the provision of services provided in a clinic/practice are likely to be more costly, compared to interventions occurring at the workplace, and taking into account the costs of equipment/tests required as well as the rental of premises. South African occupational therapists may therefore learn from their Australian colleagues, regarding the value of service provision directly at an employee's place of work (Franche et al., 2005; Deen, Gibson & Strong, 2002).

Prevention and education services, which were frequently delivered by participants, included ergonomics, body mechanics/back School training, joint protection and stress management. Although caution is applied when making direct comparison with the USA and Australian

study, both body mechanics/back school training and ergonomics were rated amongst the prevention services most frequently provided. The focus of South African occupational therapists on these prevention services seems to be similar, compared to our counterparts in the USA and Australia. A disproportionately small number of occupational therapists (<20%) in South Africa frequently focus on education and training of individuals or groups. This is considered to be a core component of prevention services and could suggest that the overall level of focus by participants on prevention services, compared to rehabilitation and assessment is significantly less. A direct comparison can unfortunately not be drawn, due to the manner in which the data set was captured.

5.5.3 Evidence based practice

More than half of participants searched and reviewed literature, liaised with a specialist in the field of WP and/or attended specialist courses or workshops related to WP, to inform their practices. This is in keeping with a study undertaken in Australia, which indicated that the focus on evidence-based sources used is similar (Bennett et al., 2003) Not much emphasis was placed on the need to attend a postgraduate qualification in the field of WP and may explain why the WP services offered seem to be limited.

If many occupational therapists rely on the attendance at courses/workshops to inform their practice, such as suggested by this study, then the availability of training courses and workshops which address an array of services relevant to WP, and which focus not only on FCEs, requires urgent attention by WP groups who can organise such events. More specifically, the results of this study suggest that there is a much stronger emphasis on evaluation services, rather than on providing interventions, which assist to return the injured/ill employee back to work. The first step to address this will be an investigation to determine the perceived benefit of various courses related to the field of WP. Such an investigation will highlight potential misperceptions about the provision of WP services. It will also assist to identify the type and nature of courses, other than FCEs, that could be offered to occupational therapists.

5.5.4 Emerging work practice services

Other WP interventions mentioned by occupational therapists included consulting services such as accessibility consulting, disability consulting, business consulting and employer support services. These services often seem to include training and education regarding legislation relevant to the employer. Although very few participants indicated their involvement in such services, it may suggest that a there is a new trend emerging in the provision of consultancy services to employers. The value of such services should certainly not be disregarded and occupational therapists have much to learn from other business management courses in this regard, however, it may underscore the need to review curriculum training at

undergraduate level, so that occupational therapists can better position themselves to provide such services within the corporate industry. It is also important to recognize that some of our colleagues have already positioned themselves to work in this type of setting, taking into consideration that 20% of participants indicated that they occasionally or frequently worked in corporate settings (Bade & Eckert, 2008; Buys & Casteleijn, 2007; Buys, 2007; Strasheim, 2001; Shrey & Hursh, 1999).

It is also of interest to note that occupational therapists' involvement in the provision of services involving rehabilitation case management is of relevance when considering the number of participants who indicated that they frequently offered this service at a clinic/practice/company (24%) and/or at an employee's place of work (15%). Taking into consideration the proposal of a new road accident benefit scheme, (Department of Transport: *Policy for the Road Accident Benefit Scheme (RABS)*, 2011) by the Minister of Transport, which will replace the existing motor vehicle accident compensation system, the need for rehabilitation specialists providing case management services may increase exponentially. Specifically, one of the primary incentives for the implementation of the new scheme is to facilitate access to rehabilitation and return to work of injured individuals. Occupational therapists are equipped with the core competencies required for the provision of rehabilitation case-management services (and rehabilitation) (Bade & Eckert, 2008; Buys, 2007) and need to be prepared to provide such services once the new road accident benefit scheme is accepted and implemented. Although training regarding case management is provided at postgraduate level, such as covered in the postgraduate diploma in vocational rehabilitation (Buys & Casteleijn, 2007), specific courses could be developed by WP interest groups to offer guidelines in the provision of these services for occupational therapists unfamiliar with these services. Not only does this proposal underscore the necessity of investigating the availability of settings in which work rehabilitation services are offered, but it also calls for a minimum standard guideline for the delivery of rehabilitation case-management services by occupational therapists to be implemented to ensure that such services are delivered consistently and appropriately;, whilst also taking medical-legal implications into consideration, such as record keeping and informed decision-making.

5.6 Strengths and Limitations of the study

This is one of the first studies that gathered information on the profile of occupational therapists delivering WP services in South Africa. The researcher attempted to cover a wide array of services provided directly and indirectly, whilst also investigating services provided in the public and private sector in order to obtain a comprehensive picture of the state of WP services provided by occupational therapists in South Africa. Taking occupational therapists' value to assist injured individuals to return to work and facilitate gainful employment, this type of study was both necessary and beneficial to obtain some level of understanding into the type and nature of WP services provided to the South African public. More specifically, to better

understand whether the South African population is suitably served by the WP services provided/not provided and to identify where potential shortcomings exist. With more clarity regarding potential shortcomings, a strategy can be devised to further investigate and address the identified disparities.

A total of 109 participants responded to the study. The response rate of 9.1% is poor, compared to similar studies, however, the total number of participants to which the survey was distributed cannot be accurately determined for reasons already discussed. Therefore, the generalisability of the study to the wider South African occupational therapy population cannot be determined and the results should be applied with caution.

Although all relevant channels for dissemination of the survey were followed in order to reach as many occupational therapists rendering services in the field of WP as possible, it is not certain whether most occupational therapists working in the public sector were reached. The possibility exists that some occupational therapists working in the public sector may not have had access to electronic services such as computers and, for this reason they may not have had access to the electronic survey. It is, however, accepted that most occupational therapists, having qualified at a university and/or working for a public institution, possess an email address and would have had access to the survey if their details were listed with the various organisations, affiliations and interest groups approached. It is furthermore not possible to determine how representative the participant sample is.

The questionnaire design was considered suitable in respect of the type of content covered, manner in which questions were phrased and the ordinal scale used. Since the aim of the study was to describe the practice profile of occupational therapists in South Africa, the range of questions covered was suitable, compared to similar studies, which investigated WP services in other countries (Deen, Gibson & Strong, 2002; Jundt & King, 1999). Content validity of the instrument was well-established by means of an expert panel reviewing that the main areas of WP services were addressed in the survey instrument and that questions were appropriately phrased, as suggested in the literature (Taylor & Bogdan, 1984). Participants were specifically requested at the start of the survey to complete the survey only once. Based on the manner in which the data set captured results, it was possible to identify whether a response was a “duplicate response” even though no personal details (eg. name, contact information etc.) was provided.

The use of the *Google* survey-instrument was effective in terms of its user friendliness, distribution of the survey to participants and in capturing responses in real time in *Microsoft Excel*. Formatting options were, however, limited and features, such as highlighting a question in bold and numbering questions was not possible. However, these formatting restrictions did not seem to negatively impact the responses by participants.

There were some limitations in the design of the survey instrument that only became apparent when the data had been collected. Settings involving ‘independent practice’ and/or ‘medical legal practice’ were not listed in the survey instrument but should have been listed as a WP setting in order to highlight the number of occupational therapists working independently versus those working for an employer/organisation. Although it was not the main aim of the study to determine the foregoing, the results may have been useful to better understand where occupational therapists are frequently employed and where potential shortcomings in the market exist. Broad generalisations can, however, be drawn, when taking into consideration participant responses referring to the type of settings where services are offered, although such generalisations should be applied with considerable caution.

The manner in which the survey data set was captured, allows for a thorough description of the participant population, but comparisons could not be drawn by means of statistical analysis due to the manner in which the categorical data was collected. If future studies are undertaken to ensure that statistical comparisons between various services can be drawn, then the structure of the data set needs more attention: the survey instrument and the manner in which data is collected should be reviewed with a statistician. For example, the independence of categories within a variable should be reviewed when compiling questions and selecting scale options to ensure a greater statistical analysis.

5.7 Summary

The generalisability of the study to the wider occupational therapy population in South Africa is difficult to determine, as it was not possible to establish the exact number of practicing occupational therapists working in WP due to the lack of an official database. Very few occupational therapists hold postgraduate qualifications relevant to the field of WP. This may be contributed due to the lack of postgraduate courses offered in this field or occupational therapists feeling that they do not wish to study further. It may, however, also explain why there seems to be a bias towards the provision of evaluation services as opposed to rehabilitation and prevention.

This disparity in service provision indicates that a high number of occupational therapists offer once-off evaluation services, which does not involve follow-up interventions such as work rehabilitation. The high emphasis placed on evaluation services and the limited number of participants offering intervention services involving work rehabilitation (e.g. work conditioning, work hardening, pain management, vocational counselling), suggest that the wider South African population does not have access to the range of WP services that could be offered.

The results further indicate that work rehabilitation services are offered less frequently than evaluation services in both public and private sector settings. Bearing in mind the proposed national health insurance system, as well as a road accident benefit scheme which aims to

enable injured individuals to access early rehabilitation, it is important that WP service provision meets the needs of the wider population. This implies that more emphasis should be placed on the provision of rehabilitation and prevention services by occupational therapists.

This is one of the first studies that gathered information on the profile of occupational therapists delivering WP services in South Africa. Valuable information has been gathered to describe the WP services provided currently and highlighted WP areas such as rehabilitation and prevention, which requires further investigation in terms of the provision of such services. Limitations of the study include the manner in which the data set has been captured, making direct comparisons between services difficult.

CHAPTER 6: CONCLUSION

This chapter discusses the key findings of the study and wider implications for the South African population. Recommendations, specifically relevant to occupational therapy practice, OTASA, education needs and research are described. The chapter concludes with recommendations based on the problems identified in the study.

6.1 Summary

This descriptive cross-sectional study used a self-administered survey to gather information about the practice profile of occupational therapists providing WP services in South Africa. The purpose of the study was to obtain a better understanding of services such as evaluation, treatment/rehabilitation, prevention/education/training frequently provided by occupational therapists and the type of settings in which these services are often provided in order to determine whether the work-related needs of the South African population are being met and to inform future planning of services.

A total of 109 participants responded to the electronic survey. Apart from one male, all were female. Participants had a mean of 15.8 years of general experience in occupational therapy (SD=9.2). The mean years for experience in the field of WP was 10.2 (SD=7.63). Thirty-five percent held an additional qualification, although not all were directly related to WP. The majority of postgraduate qualifications (21%) directly related to the field of WP were postgraduate diplomas in vocational rehabilitation obtained from the University of Pretoria. None of the participants held a doctoral qualification. In terms of CPD activities, a large number of participants (n=53; 49%) consider FCE courses to be among the most influential courses relating to WP. A disproportionately small percentage of occupational therapists (<10%) listed training related to treatment, rehabilitation and prevention among the most influential courses they attended.

Interestingly, participants' high frequency of provision of once-off evaluations and FCEs seems to coincide with the high attendance at FCE and medical legal training, thereby suggesting that considerable emphasis is placed on the assessment of injured/ill individuals. The reasons for this require investigation through further research. A considerably lower number of occupational therapists frequently offer interventions involving the treatment/rehabilitation and integration of an employee back to work and similarly, few participants frequently render services focusing on prevention. A substantially high number of participants (>90%) never work in settings such as public sector general hospitals, specialised rehabilitation centres or work rehabilitation units. A relatively high number of participants frequently provided services in private sector vocational evaluation units, while a considerably lower number of participants frequently offered services in private sector work rehabilitation units.

When taking into account the Minister of Transport's proposal of a new road accident benefit scheme (Department of Transport: *Policy for the Road Accident Benefit Scheme (RABS)*, 2011), which intends assisting injured individuals access to rehabilitation and return to work services early on, the findings of the study raise concerns on several levels. Of significance is that there may not be sufficient settings focusing on work rehabilitation across the country and, therefore, a large percentage of the population will be denied access to such services in the current scenario. This in turn offers the potential to expand occupational therapy services. This potential lack of settings focusing on work rehabilitation does not apply only to road accident victims who are employed, but should be considered in the proposed implementation of a national health insurance system (Department of Health: *Green paper on the National Health Insurance policy in South Africa*, 2011), it is also relevant to employees who sustain injuries or illnesses in other instances which impact their ability to work.

Apart from the lack of treatment and rehabilitation services offered by participants, few participants (<20%) had a strong to very strong focus on education and training. When considering that this type of intervention is an important part of prevention services, greater emphasis should be placed by occupational therapists on the offering of such services. As an example, employers can be approached to convey the benefit of such training in their places of work. If injuries are prevented in the first instance, it should lessen the burden placed on employers caused by sick absenteeism and staff shortages.

Since the majority of participants focus on assessments and few seem to prioritise treatment/rehabilitation and prevention as services frequently offered, the results of the study indicate that a limited number of occupational therapists are likely to include WP outcomes such as a reduction of sick absence, improving employee productivity and minimising injuries in the workplace as part of their core service delivery. Although it does not imply that all occupational therapists do not focus on these outcomes, it does suggest that greater emphasis should be placed on the provision of services where such outcomes can be prioritised to the benefit of the referring client.

The apparent imbalance in service provision among occupational therapists who participated in this study, as well as the availability of settings in which WP services are provided in both the public and private sector, requires urgent investigation. This is necessary to provide the wider population in South Africa equal access to work rehabilitation services in their various geographical areas. Rather than focusing on the evaluation of injured/ill individuals, more emphasis should be placed on helping individuals to return to work and/or secure gainful employment, as this should assist individuals in sustaining their cost of living.

In keeping with the literature, more than half of occupational therapists rely on literature reviews, liaisons with a specialist in the field of WP and/or attend specialist courses or workshops related to WP to inform their service provision, thus emphasising the importance of providing these sources of information. Of concern is that the majority of participants prioritise courses or workshops focusing on evaluation services (e.g. FCEs) and disproportionately fewer prioritised training focused on treatment/rehabilitation and prevention services, thereby supporting the strong emphasis that is placed on evaluation services. Furthermore, very few participants consider it necessary to obtain a postgraduate qualification relevant to the field of WP, suggesting that further research in the field may be limited.

6.2 Recommendations

Recommendations will be discussed under separate headings, specifically relevant for occupational therapy practice, the OTASA, education and research.

6.2.1 For Occupational Therapy Practice

- Occupational Therapists specialising in WP services involving rehabilitation and the re-integration of employees back to work, and who are experienced in this area, should be encouraged to offer relevant training to other occupational therapists. The practical experience of such occupational therapists in dealing with key stakeholders such as employers, union members, human resource management, medical aid schemes and the workmen's compensation commissioner, will offer useful guidance to less-experienced occupational therapists to strengthen relationships, avoid pitfalls and develop the necessary skillsets and confidence to deliver similar services. Training could also involve the development of business proposals, securing funding to set up and develop work rehabilitation services such as implementing work hardening and work conditioning programmes. Work-practice interest groups in the various geographical regions, can specifically host such workshops and set up mentorship programmes to support occupational therapists interested in pursuing this service provision.
- Occupational therapists working in the field of WP should expand and/or increase their service provision in work rehabilitation and prevention/education/training. Apart from offering services, which only focus on the evaluation of injured individuals, occupational therapists should develop and market their services to prospective referring sources such as employers and occupational health providers, in order to include the rehabilitation of injured individuals and re-integration back to work. Prevention services, which include education and training, could furthermore be offered directly at the employer's workplace and the benefits thereof should be highlighted to the employer. This will require the occupational therapist to approach the employer directly to explain

the content of such services, the benefit thereof on employees' morale in the workplace and the cost benefit of reducing absenteeism.

- Similar to Australian occupational therapists, South African occupational therapists should explore ways in which more emphasis can be placed on the provision of services at an employee's place of work as this has cost saving benefits to both the occupational therapist and the employer. As an example, symptom surveys can be administered in conjunction with a risk/hazard analysis at a low cost, subject to the agreement of an employer, to ascertain the main symptoms and risks within the workplace. Once the main problems have been identified, the occupational therapist concerned can develop a programme specific to the employer's needs and negotiate an intervention plan, which is directly offered in the workplace. In so doing, a healthy working relationship can be fostered to prove the benefit of intervention services provided.

6.2.2 Occupational Therapy Association of South Africa (OTASA)

- An accurate and up-to-date database should be established of occupational therapists working in the field of WP. This can be accomplished by distributing a survey to occupational therapists to specifically obtain information about the type of WP services that they provide. This is important, in order to obtain a transparent view of service provision and distribution by occupational therapists in the field so that the shortcomings in the provision of WP services can be identified. The database will also be useful for further research undertaken in this field as it should reflect the actual number of occupational therapists providing such services, their geographical location and the type of service rendered across the country. It will furthermore help to highlight geographical areas where the provision of WP services may not be available and where services should be developed to respond to the needs of the wider population who do not have access to WP services.
- Similarly, minimum standards for the provision of rehabilitation case-management services should be explored further, taking into consideration those occupational therapists already providing services in this field and as the need for more therapists offering such services may increase. The development of minimum standards can be initiated by WP interest groups, who in turn can obtain further comment from occupational therapists specialising in WP.
- An investigation into the apparent shortcoming of courses offered in relation to the WP field should be done by WP interest groups; the availability of such courses across the country should be addressed. The development of training courses should include commencement of start–up services involving rehabilitation and re-integration of injured/ill employees back to work.
- Taking into consideration the discrepancies of workplace terminology highlighted in the literature internationally and locally, a compendium of workplace terminology should be

developed and distributed among South African occupational therapists to ensure the consistent and appropriate use of terminology. As a starting point, WP focus groups could be commissioned by the OTASA education committee to identify workplace terminology commonly used and sourcing descriptions, which are relevant and appropriate to WP. Once a draft has been compiled, indicating a list of workplace terminology, it can be disseminated by the OTASA task team to occupational therapists working in the field for further input. Once finalised, the compendium of workplace terminology should be listed as a resource on the OTASA website to be easily accessible to occupational therapists, occupational health providers, insurance providers and employers dealing with individuals who have sustained injuries in the workplace.

6.2.3 For Education

- The provision of postgraduate training relevant to the field of WP at more universities should be explored. Based on the information collected, it appears that only two universities in South Africa offer postgraduate training. Therefore, the provision of postgraduate training in WP is limited to two geographical regions, namely Pretoria and the Western Cape. Postgraduate training specific to WP will equip more occupational therapist to implement and provide WP services in their various geographical areas of practice.
- Training institutions should explore existing postgraduate occupational therapy curricula with the aim of equipping occupational therapists with skills to provide services such as disability management, accessibility and corporate business consulting, relevant to WP. An introduction to such services should also be included at undergraduate level to ensure that new graduates are equipped with the basic skills to offer such services to clients.
- Occupational therapists should be encouraged to attend training courses and/or consider obtaining postgraduate training, which involves interventions focussed on the rehabilitation and re-integration of employees back to work. Both OTASA and tertiary institutions offering occupational therapy training should be encouraged to offer CPD activities to equip occupational therapists for different areas of WP.
- Minimum standards for occupational therapists providing services in the field of WP should be developed and distributed among therapists. One way forward may be the conception of a think-tank to constructively plan and strategize the provision of WP services nationally. Alternatively, a focus group, comprising experts in the field, may also be a useful starting point to compile a guideline of minimum standards required.

6.2.4 For research

- A further investigation should be undertaken to better understand the imbalance in service provision, suggested by this study. More specifically, further research, by means of a survey should be undertaken in order to establish why such a high number of participants prefer to focus on evaluation services, whether sufficient training is offered in other fields of WP intervention (e.g. treatment/rehabilitation, prevention, education and training) and to ascertain the reason for excluding such services from their scope of practice.
- A formal investigation is required into the availability of settings in which WP services are provided across the country in both public and private sectors. A formal audit is recommended of occupational therapists based in settings where WP services are offered as well as indicating the geographical setting thereof. This will assist in understanding where WP services are lacking.
- It will furthermore be useful to understand which institutions/companies and/or organisations employ occupational therapists offering WP services and in what capacity such individuals are employed (e.g. full time or part time). Such information will be best collected by administering a survey, which will assist in recognising whether there is an imbalance in the appointment of occupational therapists in the private and/or public sector. Such a survey can be administered by WP interest groups and/or by occupational therapy students interested in pursuing postgraduate studies in WP.
- The main sources referring to WP services should be investigated in order to better understand who utilises these services and how frequently they are used in South Africa. By so doing, a better understanding can be obtained regarding the need for the provision of certain types of WP services and where shortcomings exist. With respect to the former, a further investigation should also consider individuals who should receive WP services, but are never referred.

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APPENDIX A: CONTACT LIST: DISTRIBUTION OF SURVEY

	Association/Group/ Organisation/Affiliation/ Practice	First email to obtain permission to distribute survey	Permission obtained from contact person	Agreement to release email list to researcher for disseminati on	Participant to disseminate survey to own distribution list o.b.o researcher	Initial email	First email reminder	Second email reminder	Final email reminder
1.	Occupational Therapy Association of South Africa (OTASA)	21.02.2014	Yes, email agreement on 24.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
2.	Medical legal interest group (National network)	21.02.2014	Yes, email agreement on 24.02.2014	Yes	n/a	27.02.2014	20.03.2014	27.03.2014	04.04.2014
3.	Medical legal interest group (Western Cape branch)	21.02.2014	Yes, email agreement on 24.02.2014	N/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
4.	POTS interest group	21.02.2014	Yes, email agreement on 24.02.2014	Yes	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
5.	Rural Rehab South Africa (RuReSA)	21.02.2014	Yes, email agreement on 24.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
6.	Occupational Health Interest group (Western Cape)	21.02.2014	Yes, email agreement on 24.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
7.	Work Practice Interest Group (Western Cape)	21.02.2014	Yes, email agreement on 24.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
8.	PGWC communication tree	21.02.2014	Yes, email agreement on 24.02.2014	n/a	yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
10.	SASHT (Western Cape)	24.02.2014	Deferred to Ashley Guedes on	n/a	n/a	n/a	n/a	n/a	n/a

	Association/Group/ Organisation/Affiliation/ Practice	First email to obtain permission to distribute survey	Permission obtained from contact person	Agreement to release email list to researcher for disseminati on	Participant to disseminate survey to own distribution list o.b.o researcher	Initial email	First email reminder	Second email reminder	Final email reminder
			25.02.2014						
9.	South African Society of Hand Therapists (SASHT), National Network	24.02.2014	Yes, email agreement on 26.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
11.	Occupational Therapists working in Life Insurance (OTLA)-Contact 1	21.02.2014	No response/cons ent	n/a	n/a	n/a	n/a	n/a	n/a
12.	OTLA - Contact 2	21.02.2014	No (Don't have email distribution list)	n/a	n/a	n/a	n/a	n/a	n/a
13.	OTLA - Contact 3	21.02.2014	Telephone response on 26.02.2014	n/a	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
14.	Old Mutual Head office	26.02.2014	Yes, telephone agreement on 26.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
15.	Momentum, Bellville Office (Contact 1)	26.02.2014	Yes, telephone agreement on 26.02.2014	No	Yes	04.03.2014	20.03.2014	27.03.2014	04.04.2014
16.	Momentum, Bellville Office (Contact 2)	26.02.2014	Yes, telephone agreement on 26.02.2014	n/a	n/a	27.02.2014	20.03.2014	27.03.2014	04.04.2014
17.	Momentum, Centurion Office	26l.02.2014	Yes, telephone agreement on 26.02.2014	No	Yes	28.02.2014	20.03.2013	27.03.2014	04.04.2014
18.	Wikipedia (Private Practice)	26.02.2014	Yes, email agreement on 27.02.2014	n/a	Yes	27.02.2014	20.03.2014	27.03.2014	04.04.2014
19.	Sanlam, Bellville Office (Contact 1)	26.02.2014	Yes, email agreement on	Yes	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014

	Association/Group/ Organisation/Affiliation/ Practice	First email to obtain permission to distribute survey	Permission obtained from contact person	Agreement to release email list to researcher for disseminati on	Participant to disseminate survey to own distribution list o.b.o researcher	Initial email	First email reminder	Second email reminder	Final email reminder
			27.02.2014						
20.	Sanlam, Bellville Office (Contact 2)	26.02.2014	Yes, email agreement (27.02.2014	Yes	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
21.	Alexander Forbes, Gauteng Office	27.02.2013	Yes, email agreement on 04.03.2014	No	Yes	05.03.2014	20.03.2014	27.03.2014	04.04.2014
22.	Alexander Forbes, Stellenbosch Office	26.02.2014	No response/cons ent	n/a	n/a	n/a	n/a	n/a	04.04.2014
23.	Non-Government Organisation (Contact 1)	27.02.2014	Yes, email agreement on 28.02.2014	n/a	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
24.	Non-Government Organisation (Contact 2)	03.02.2013	Cannot complete - not appointed in role as OT.	n/a	n/a	n/a	n/a	n/a	04.04.2014
25.	Tygerberg Hospital work assessment unit	28.02.2014	Yes, email agreement on 28.02.2014	n/a	Yes	28.02.2014	20.03.2014	27.03.2014	04.04.2014
26.	Private Practice 1 (Stellenbosch and Somerset West Branches)	28.02.2014	Yes, email agreement on 28.02.2014	n/a	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
27.	Private Practice 2 (Tokai)	28.02.2014	Yes, email agreement on 28.02.2014	n/a	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
28.	Private Practice 3 (Paarl and Bellville)	28.02.2014	Yes, email agreement on 28.02.2014	n/a	n/a	28.02.2014	20.03.2014	27.03.2014	04.04.2014
29.	Private Practice 4 (Centurion)	03.03.2014	Yes, email agreement on 03.03.2014	Yes	n/a	03.03.2014	20.03.2014	27.03.2014	04.04.2014

	Association/Group/ Organisation/Affiliation/ Practice	First email to obtain permission to distribute survey	Permission obtained from contact person	Agreement to release email list to researcher for dissemination	Participant to disseminate survey to own distribution list o.b.o researcher	Initial email	First email reminder	Second email reminder	Final email reminder
30.	Deputy director, Specialised services in Gauteng	03.03.2014	Yes, email agreement on 03.03.2014	No	Yes	03.03.2014	20.03.2014	27.03.2014	04.04.2014
31.	Private Practice 5 (Johannesburg)	05.03.2014	yes, email agreement on 05.03.2014	n/a	n/a	05.03.2014	20.03.2014	27.03.2014	04.04.2014
32.	Private Practice (Milnerton)	03.03.2014	Yes, email agreement on 03.03.2014	n/a	n/a	03.03.2014	20.03.2014	27.03.2014	04.04.2014

APPENDIX B: DRAFT SURVEY INSTRUMENT

CONSENT

When proceeding with this study, I confirm that I have read the confirmation sheet and I understand that there are no known risks to participate. I also understand that I can withdraw at any time.

A.	I herewith provide my consent to participate in the study	Yes ☐/No☐
B.	I herewith do not provide my consent to participate in the study	Yes ☐/No☐
C.	If you selected to proceed with the study, please indicate whether you meet the inclusion criteria.	Yes ☐/No☐

Please complete this **seven page** survey by entering your response to each question in the respective columns provided. Completion of the survey will only take 20 to 25 minutes of your time.

If you agree to participate in this study, please ensure that you complete questions independently and without consultation with your colleagues or peers.

1. Section A: Demographic information

Training/Education

a) State the year that you qualified _____

b) State the name of the institution where you qualified _____

c) Indicate your age_____

d) How many years of experience do you have in the work practice field_____

e) Do you hold a postgraduate qualification (e.g. certificate, diploma, Masters or PhD) in the field of work practice? Yes ☐/No☐

f) If your answer is yes, please state the name of the institution where you obtained your postgraduate qualification _____

g) If your answer is no, have you attended specialist training course in the field of work practice? Yes ☐/No☐

h) If yes, please state the name of the course that you attended._____

I) Please indicate your gender by selecting the relevant box. Male ☐ /Female ☐

1.2) Practice setting:

A list of practice settings has been provided below. Please select how frequently you work in the following settings. If you do not work at the particular setting, ensure that you select "Not applicable". You may select as many options as apply to your practice.

Practice Setting	Always at this setting	Twice per week at this setting	Three times p.w.at this setting	Four times p.w. at this setting	Not applicable
a) General Hospital Setting	☐	☐	☐	☐	☐
b) Hospital work rehabilitation unit	☐	☐	☐	☐	☐
c) Private practice (Single profession)	☐	☐	☐	☐	☐
d) Private practice (Multidisciplinary)	☐	☐	☐	☐	☐

Practice Setting	Always at this setting	Twice per week at this setting	Three times p.w.at this setting	Four times p.w. at this setting	Not applicable
e) Work rehabilitation service	☐	☐	☐	☐	☐
f) Vocational evaluation unit	☐	☐	☐	☐	☐
g) Corporate company	☐	☐	☐	☐	☐
h) Self employed	☐	☐	☐	☐	☐
e) Non-Government organisation (NGO)	☐	☐	☐	☐	☐
f) Other – please write these in the space provided	☐	☐	☐	☐	☐

_____

_____

_____

1.3) Type of intervention

How strong are the following interventions, if any, related to your range of work practice service delivery?

Intervention forming part of VR services	Very strong Focus	Strong focus	Moderate focus	Occasional focus	Not applicable
a) Once off intervention (Evaluation only)	☐	☐	☐	☐	☐
b)Consulting (e.g. Evaluation, meetings, providing advice and following-up implementation of advice)	☐	☐	☐	☐	☐
c)Telephone consultation only	☐	☐	☐	☐	☐
d)Face to face and telephone consultation	☐	☐	☐	☐	☐
e)Group (e.g. key stakeholders consultation)					
e)Evaluation and rehabilitation at clinic/rehabilitation centre	☐	☐	☐	☐	☐
f) Worksite intervention (once-off evaluation)	☐	☐	☐	☐	☐
g) Worksite intervention (once-off evaluation with follow-up	☐	☐	☐	☐	☐

Intervention forming part of VR services	Very strong Focus	Strong focus	Moderate focus	Occasional focus	Not applicable
sessions at the workplace)					

h) Other work practice services (If other services are delivered other than the above, briefly describe what this service entails)

_____
_____
_____
_____

2. Services

% of service delivery	Very strong Focus (>75 – 100%)	Strong focus (>50 – 75%)	Moderate focus (>25 – 50%)	Occasional focus (1 – 25%)	Not applicable
2.1 Evaluation					
a) Functional capacity evaluation	☐	☐	☐	☐	☐
b) Job analysis assessment/ Work site assessment	☐	☐	☐	☐	☐
c) Risk/hazard analysis	☐	☐	☐	☐	☐
d) Vocational Skills evaluation	☐	☐	☐	☐	☐
e) Pre-employment evaluation	☐	☐	☐	☐	☐
f) Ergonomic evaluation	☐	☐	☐	☐	☐
2.2 Treatment/rehabilitation					
2.2.1) OFF SITE intervention *(In other words away from the work premises in a clinic, rehab, corporate setting*					
% of service delivery	**Very strong Focus (75 – 100%)**	**Strong focus (50 – 75%)**	**Moderate focus (25 – 50%)**	**Occasional focus (1 – 25%)**	**Not applicable**
a) Work conditioning	☐	☐	☐	☐	☐
b) Work hardening	☐	☐	☐	☐	☐
c) Exercise programme	☐	☐	☐	☐	☐
d) Job modification/ accommodation	☐	☐	☐	☐	☐
e) Pain management	☐	☐	☐	☐	☐
f) Rehabilitation Case Management	☐	☐	☐	☐	☐
g) Vocational counseling	☐	☐	☐	☐	☐
h) Vocational Rehabilitation Skills training/Development	☐	☐	☐	☐	☐
i) Supported employment	☐	☐	☐	☐	☐

% of service delivery	Very strong Focus (>75 – 100%)	Strong focus (>50 – 75%)	Moderate focus (>25 – 50%)	Occasional focus (1 – 25%)	Not applicable
j) Social entrepreneurship	☐	☐	☐	☐	☐
k) Other rehabilitation services	☐	☐	☐	☐	☐

2.2.2) Specific ON SITE service delivery *(in other words the intervention is delivered at the workplace*

% of service delivery	Very strong Focus (75 – 100%)	Strong focus (50 – 75%)	Moderate focus (25 – 50%)	Occasional focus (1 – 25%)	Not applicable
a) Body mechanics/ Back saving principles programmes	☐	☐	☐	☐	☐
b) Wellness/fitness programmes	☐	☐	☐	☐	☐
c) Joint protection/energy conservation programmes	☐	☐	☐	☐	☐
d) Functional capacity evaluation	☐	☐	☐	☐	☐
e) Treatment of acute injuries	☐	☐	☐	☐	☐
f) Pre-employment screening	☐	☐	☐	☐	☐
g) Pain management	☐	☐	☐	☐	☐
h)Symptom surveys/discomfort screenings	☐	☐	☐	☐	☐
i) Re-integration into work	☐	☐	☐	☐	☐

2.2.3 Prevention/Education /Training

% of service delivery	Very strong Focus (75 – 100%)	Strong focus (50 – 75%)	Moderate focus (25 – 50%)	Occasional focus (1 – 25%)	Not applicable
a) Ergonomics	☐	☐	☐	☐	☐
b Body Mechanics/Back School	☐	☐	☐	☐	☐
c) Cumulative trauma Clinic	☐	☐	☐	☐	☐
d) Wellness/Fitness programmes	☐	☐	☐	☐	☐
e) Joint protection/Conservation	☐	☐	☐	☐	☐
f) Stress management	☐	☐	☐	☐	☐
g) Nutrition	☐	☐	☐	☐	☐
h) Other prevention/Education/Trainin	☐	☐	☐	☐	☐

g services					

3) Follow-up of employee's progress at work, following completion of intervention

3.1) Indicate what the nature of follow up services are that you provide by indicating your selection under each heading.

Applicability	Very strong	Strong	Moderate	Occasional	Not applicable
a) Telephone	☐	☐	☐	☐	☐
b) Face to face with employee at clinic/practice	☐	☐	☐	☐	☐
c) Face to face with employee at the workplace	☐	☐	☐	☐	☐
d) Face to face with employee at home	☐	☐	☐	☐	☐
e) Telephone liaison with employer	☐	☐	☐	☐	☐
f) Telephone liaison with relatives	☐	☐	☐	☐	☐

3.2) How frequently does follow-up occur? (Please ensure that every box is selected. If follow up is not applicable in your context, ensure that you select "never".

Frequency	Always (100% of the time)	Less than 75% of the cases	Less than 50% of cases	Less than 25% of cases	Never
Weekly	☐	☐	☐	☐	☐
Monthly	☐	☐	☐	☐	☐
Once every 3 months	☐	☐	☐	☐	☐
Once in 3 to 6 months	☐	☐	☐	☐	☐
Once in 6 to 12 months	☐	☐	☐	☐	☐

4) Outcomes

How strongly do you focus on the following work practice outcomes, if any?

Focus	Very strong focus	Strong focus	Moderate focus	Occasional focus	Not applicable
Rehabilitation specific outcomes					
a) Improvement of abilities	☐	☐	☐	☐	☐
b) Improvement of quality of life	☐	☐	☐	☐	☐
c) Improvement of coping strategies/self-management strategies	☐	☐	☐	☐	☐

Employee specific outcomes					
Focus	**Very strong focus**	**Strong focus**	**Moderate focus**	**Occasional focus**	**Not applicable**
c) Return to same employer, same job role	☐	☐	☐	☐	☐
d) Return to same employment and same job role but with accommodations	☐	☐	☐	☐	☐
e) Return to same employment, but different job role	☐	☐	☐	☐	☐
f) Return to different employer, same job role	☐	☐	☐	☐	☐
g) Return to different employer, but performing an alternative job role	☐	☐	☐	☐	☐

Employer specific outcomes					
Focus	**Very strong focus**	**Strong focus**	**Moderate focus**	**Occasional focus**	**Not applicable**
h) Reducing the risk of injury at the workplace	☐	☐	☐	☐	☐
i) Improving awareness of the application of ergonomic principles at work	☐	☐	☐	☐	☐
j) Reducing sick absence at work	☐	☐	☐	☐	☐
k) Improving employee productivity at work	☐	☐	☐	☐	☐
l) Improving job retention in a specific role	☐	☐	☐	☐	☐

5) Evidence based practice

How often do you refer to one of the following modes as part of evidence based practice?

Frequency	Always (100% of the time)	Less than 75% of the cases	Less than 50% of cases	Less than 25% of cases	Never
a) Search and review specific research literature	☐	☐	☐	☐	☐
b) Attending journal clubs	☐	☐	☐	☐	☐
c) Attending interest groups	☐	☐	☐	☐	☐
d) Utilize a mentor system for guidance of evidence based practice	☐	☐	☐	☐	☐
e) Liaising with a specialist in the field	☐	☐	☐	☐	☐
f) Attending Specialist courses (locally)	☐	☐	☐	☐	☐
g) Attending specialist courses h) (Internationally)	☐	☐	☐	☐	☐
i) Pursuing postgraduate studies	☐	☐	☐	☐	☐

Thank you for completing this survey. Please return it no later than 14 March 2014

APPENDIX C: FOCUS GROUP GUIDING QUESTIONS

Step 1 – Indicate whether there is a concern with a particular question
Step 2- Indicate what course of action is required, if any

SURVEY ITEM	SURVEY QUESTION	**STEP 1 – Item specification**	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	**STEP 2- Course of Action**	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
			y/n	y/n	y/n	y/n	y/n	y/n							
1.	Training and education														
a	Year Qualified														
b	Institution qualified														
c	Age														
d	Years of experience														
e	Postgraduate qualification														
f	Institution (Postgraduate qualification)														
g	Specialist training attended														
h	Name of specialist training attended														
i	Gender														
2.	**Practice setting**														
a.	General Hospital Setting														
b	Hospital work rehabilitation unit														
c	Private practice (Single profession)														

SURVEY ITEM	SURVEY QUESTION	STEP 1 – Item specification	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	STEP 2- Course of Action	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
d	Private practice (Multidisciplinary)														
e	Vocational Evaluation Unit														
f.	Corporate Company														
g.	Self employed														
h.	Non-Governmental Organisation (NGO)														
i.	Other														
1.3	**Type of Intervention**														
a	Once off intervention (Evaluation only).														
b	Consulting (Evaluation, meetings, advice, F/U).														
c	Telephone consultation only.														
d	Face to Face and telephone consultation.														
e	Group (e.g. key stakeholder consultation).														
f	Evaluation&Rehabilitation@clinic/rehab centre.														
g	Worksite intervention (once off evaluation).														
h	Worksite intervention (evaluation & follow up).														
i.	Other work practice services.														
2.	**Services**														
2.1	**Evaluation**														
a	Functional Capacity Evaluation.														
b	Job Analysis/Worksite assessment.														
c	Risk/hazard analysis.														
d	Vocational Skills evaluation.														

SURVEY ITEM	SURVEY QUESTION	STEP 1 – Item specification	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	STEP 2- Course of Action	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
e	Pre-employment evaluation.														
f	Ergonomic evaluation.														
2.2	**Treatment/Rehabilitation**														
2.2.1	**Off-Site intervention**														
a	Work conditioning.														
b	Work Hardening.														
c	Exercise programme.														
d	Job Modification/accommodation.														
e	Pain Management.														
f	Rehabilitation Case Management.														
g	Vocational Counseling.														
h	Vocational Rehabilitation/Skills training/Development.														
i	Supported employment.														
j	Social entrepreneurship.														
k	Other rehabilitation services.														
2.2.2	**On-site intervention**														
a	Body Mechanics/Back saving principles.														
b	Wellness/fitness programmes.														
c	Joint protection/energy conservation programmes.														
d	Functional Capacity Evaluation.														

SURVEY ITEM	SURVEY QUESTION	STEP 1 – Item specification	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	STEP 2- Course of Action	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
e	Treatment of acute injuries.														
f	Pre-employment screening.														
g	Pain Management.														
h	Symptom surveys/discomfort screenings.														
i	Re-integration into work.														
2.2.3	**Prevention/Education/Training**														
a	Ergonomics														
b	Body mechanics/Back school.														
c	Cumulative trauma clinic.														
d	Wellness/Fitness programmes.														
e	Joint protection/Conservation.														
f	Stress Management.														
g	Nutrition.														
h	Other prevention/Education/Training.														
3.1	**Follow up progress**														
a	Telephone.														
b	Face to face with employee at clinic/practice.														
c	Face to face with employee at the workplace.														
d	Face to face with employee at home.														
e	Telephone liaison with employer.														
f	Telephone liaison with relatives.														
3.2	**Frequency of follow up**														

SURVEY ITEM	SURVEY QUESTION	**STEP 1 – Item specification**	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	**STEP 2- Course of Action**	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
a	Weekly														
b	Monthly														
c	Once every 3 months.														
d	Once in 3 – 6 months.														
e	Once in 6 – 12 months.														
4.	Outcomes														
4.1	Rehabilitation specific outcomes														
a	Improvement of abilities.														
b	Improvement of quality of life.														
c	Improvement of coping/self-management strategies.														
4.2	**Employee specific outcomes**														
d	Return to same employer, same job role.														
e	Return to same employment, same job role but with accommodations.														
f	Return to same employment, but with different job role.														
g	Return to different employer, same job role.														
h	Return to different employer, performing alternative job role.														
4.3	**Employer specific outcomes**														
i	Reducing the risk of injury at the workplace.														

SURVEY ITEM	SURVEY QUESTION	STEP 1 – Item specification	Is the Question Relevant?	Is the question appropriately phrased and understood?	Does the question measure what it intends to measure?	Is the response format (e.g. scale used) relevant to the question posed?	Is the response option (wording used) applicable and relevant?	Is the question ambiguous?	STEP 2- Course of Action	Accept original question	Change question, but keep meaning	Eliminate question	Write a new question	Add an item/ question	Comments
j	Improving awareness of the application of ergonomics principles at work.														
k	Improving employee productivity at work.														
l	Improving job retention in a specific role.														
5.	**Evidence based practice**														
a	Search and review specific research literature.														
b	Attending journal clubs.														
c	Attending interest groups.														
d	Utilise a mentor system for guidance.														
e	Liaising with a specialist in the field.														
f	Attending specialist courses (locally).														
g	Attending specialist courses (internationally).														
h	Pursuing postgraduate studies.														

GENERIC COMMENTS PERTAINING TO THE SURVEY INSTRUMENT

Are the main areas of work practice included?
Are the questions presented in a logical order?
Is the questionnaire easy to complete?

APPENDIX D: SURVEY INSTRUMENT AMENDMENTS

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
1	n/a	Introduction, enclosed after consent section: "*If you agree to participate in this study, please ensure that you complete questions independently and without consultation with your colleagues or peers*. "	n/a	The initial introduction sentence is moved to the very start of the survey. The participant is requested to review the inclusion criteria prior to proceeding with the study. A reminder of the closure date has also been enclosed. The following wording was added: "***Thank you for considering participating in the study. Please ensure that you complete questions independently and based on your own experience. Note that the survey should be submitted by 14 March 2014 at the very latest***. "
CONSENT				
2	n/a	I herewith provide my consent to participate in the study.☐ I herewith do not provide my consent to participate in the study.☐ If you selected to proceed with the study, please indicate whether you meet the inclusion criteria.☐	Nr. 1	Consent options was reviewed and changed to the following: ☐ **Yes, I herewith provide my consent to participate in the study.** ☐ **No, I do not provide my consent to participate in the study.** ☐ **Yes, I meet the inclusion criteria for the study.** ☐ **No, I don't meet the inclusion criteria for the study and therefore cannot participate.**
DEMOGRAPHIC INFORMATION				
3.	1.1	Subheading: Training/Education	n/a	The sub-heading has been removed as it is confusion and not all the questions contained in the demographic section are relevant to training and education.
4.	1c	"Indicate your age".		The question has been removed as it is not deemed relevant to the survey.
5.	1d	Question: "Do you hold a postgraduate qualification (e.g. Certificate, diploma, Masters or PhD) in the field of work practice?	Nr. 5	The wording of the question was reviewed and a "yes/no" response has been included. **"Do you hold a postgraduate qualification in the field of work practice?"**

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
				☐ **Yes** ☐ **No** The question is followed on by another question, stating the following:
6.	1f	Question: If your answer is yes, please state the name of the institution where you obtained your qualification.	Nr. 6 & 7	*The following two questions have been subdivided into two separate questions:* • ***"If your answer is yes, please state the name of your postgraduate qualification**."* • *"**If you hold a postgraduate qualification relevant to the field of work practice, please state the name of the institution where you obtained your qualification**."* The following wording was added to facilitate compulsory completion of the question : **"*If not relevant to you, type 'not applicable' in order to move to the next question*."**
7.	1g	Question: If your answer is no, have you attended specialist training courses in the field of work practice? ☐ **Yes** ☐ **No**	Nr 8.	The wording of the question is rephrased as follows: "Have you attended specialist training courses in the field of work practice?" ☐ **Yes** ☐ **No**
8.	1h	If yes, please state the name of the course that you have attended.		It was agreed that it is necessary to qualify specialist training courses by referring to the words "continuing professional development". It was also decided that it would be helpful if the participant could at least list three courses that they found helpful to their service delivery in the field of work practice. "***If yes, please prioritise the three most influential continuing professional development courses that you have attended, relevant to the field of work practice***."
PRACTICE SETTING				
9.	Nr. 1.2	Question:	Nr. 11	The question was rephrased to qualify how recently the participant must

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
		A list of practice settings have been provided below. Please select how frequently you work in the following settings. If you do not work at the particular setting, ensure that you select "Not applicable". You may select as many options as apply to your practice.		have worked/provided services in the field of work practice. Phrasing of the question are as follows: "***A list of practice settings has been provided below. In the past twelve months, please select how frequently you worked in the following settings on a weekly basis."***
10.	Nr.1.2	Five point scale used, provided the following options: 5. Always at this setting. 4. Twice per week at this setting. 3. Three times per week at this setting. 2. Two times per week at this setting. 1. Not applicable.	Nr. 11	It was suggested that percentages should be used as this is a better reflection of time spent. The five point scale, remains, but the wording has been changes as follows: **5. 90 – 100% of the time.** **4. 60 – 90% of the time.** **3. 30 – 60% of the time.** **2. 10 – 30% of the time.** **1. 0 – 10% of the time.**
11.	1.2a - f	The following items were listed: • General Hospital setting • Hospital work (e.g. Rehabilitation unit) • Private Practice (Single Profession e.g. Only OT's) • Private Practice (Multidisciplinary) • Work rehabilitation service • Vocational evaluation unit. • Corporate company (e.g. Insurance provider, banking service, etc.) • Self employed • Non-government organisation (NGO) Other	Nr.11	The following items have been removed from the list of items: • Private Practice (Single Profession e.g. Only OT's) • Private Practice (Multidisciplinary) • Self employed The term Hospital Work (e.g. Rehabilitation Unit) Is changed to "***Specialised Rehabilitation***" Certain services are both available in private and public sectors. Therefore, it was suggested that both private and public sector should be listed. Each item apart from Corporate Company, NGO and Other, are listed as both public and private sector. As an example. General Hospital Setting is listed as "**General Hospital setting (Private)"** and "**General Hospital Setting (Public)".**
12.	1.2	Question: If you have selected "other", please state the type of setting(s) that you deliver work practice services.	Nr.12	The wording has been rephrased to: ***"If you have selected other in the grid above, please state the type of practice setting(s) that you deliver work practice services. If not relevant to you, please type 'not applicable' in order to move onto the next question."***

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
TYPE OF INTERVENTION				
13	1.3	Question: How strong is the following intervention related to your work practice service delivery, if any.	Nr. 13	Since the wording in the scale used, incorporates the word "Focus" it was suggested to include the term in the question as indicated below: ***"How strongly is the focus of your work practice service on the following interventions?"***
14.	1.3a -g	Services listed included the following: • Once off intervention (Evaluation only) • Consulting e.g. Evaluation, meetings, providing advice and following up implementation of advice) • Telephone consultation only • Face to face and telephone consultation • Group intervention • Evaluation and rehabilitation at clinic/rehabilitation centre • Worksite intervention (once off evaluation) • Worksite intervention (once off evaluation with follow up sessions at the workplace)	Nr.13	The following terms were reviewed for the sake of clarity: Once of intervention was changed to "Once off evaluation" The item "Consulting" was changed to incorporate the following: • **Consulting (Via telephone)** • **Consulting (face to face with one person)** • **Consulting (face to face with a group)** Since many therapists deliver interventions either on a one to one basis or in a group setting, the following terms were listed by separating the intervention as an "individual" or "group" intervention: • Evaluation and rehabilitation at clinic/rehabilitation centre – ***Individual*** • Evaluation and rehabilitation at clinic/rehabilitation centre – ***Group*** • Worksite intervention (once off evaluation ***with individual***) • Worksite intervention (once off evaluation ***with a group***) • Worksite intervention (once off evaluation with follow up sessions at the workplace - **Individual**) • Worksite intervention (once off evaluation with follow up sessions at the workplace - **Group**) The following services were added: • **Education and Training of <u>Individual</u> (e.g. Staff, Relative, Community Member)** • **Education and Training of <u>Group</u> (e.g. Staff, Relative,**

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
				Community Member) • **Work Claims Assessment** • **Ergonomic intervention** • **Program development for improving ability to work** • **Quality Assurance of Work programs**
15.	1.3h	Question: Other work practice services (if other services are delivered other than the above, briefly describe what this service entails).	Nr.14	The phrasing of the question was reviewed as follows: ***"If you focus on other intervention services related to work practice, not listed above, please list additional services and indicate what this entails. Please type 'not applicable' if this question is not relevant to you."***
SCALES REVIEWED				
16.	**Nr.** 2.1 2.2.1 2.2.2 2.2.3 3.2 5	The five point scale in section 2, 3.2 and 5. read as follows: 5. Always 4. Often 3. Sometimes 2. Rarely 1. Never	Nr's 15 16 17 22 26	The five point scale in section 15, section 16. and section 17, Section 22 and section 26 have been reviewed and expressed as the following percentages: **5. 90 – 100% of time.** **4. 60 – 90% of time.** **3. 30 – 60% of time.** **2. 10 – 30% of time.** **1. 0 – 10% of time.**
PERCENTAGE SERVICES				
	Evaluation			
17.	2.1	First column of grid is titled: Frequency of Service delivery	15.	First column title is reviewed to read: ***Frequency of Service delivery (Direct and Indirect***), indicating that services could be delivered directly or indirectly.
18.	2.1	The sub heading of column one of the "Services" grid is titled "Evaluation"	15.	An additional question is enclosed next to the sub heading "Evaluation", which reads as follows: ***"EVALUATION: How frequently do you deliver any of the following evaluation services?"***
19.	2.1 a - f	Services listed under the sub heading 2.1	15.	Additional services included in this list is:

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
		Evaluation are as follows: • Functional capacity evaluation • Job analysis assessment/ Work site assessment • Risk/hazard analysis • Vocational Skills evaluation • Pre-employment evaluation • Ergonomic evaluation		• ***Pre-vocational Skills Assessment and*** • ***Supported Employment*** The wording Directly and indirectly were added next to the following items to allow the participant to qualify whether they deliver the service on a direct or indirect basis: • Job analysis assessment/ Work site assessment (Directly) • Job analysis assessment/ Work site assessment (Indirectly) • Risk/hazard analysis (Directly) • Risk/hazard analysis (Indirectly) • Pre-vocational skills assessment (Directly) • Pre-vocational skills assessment (Indirectly) • Vocational Skills evaluation (Directly) • Vocational skills evaluation (Indirectly) • Pre-employment evaluation (Directly) • Pre-employment evaluation (Indirectly) • Ergonomic evaluation • Supported employment (Directly) • Supported employment (Indirectly)
	Treatment/Rehabilitation			
20.	2.2.1 and 2.2.2	Sub Headings of treatment/rehabilitation services listed: OFF-SITE INTERVENTION and ON-SITE INTERVENTION	16.	The sub heading OFF SITE and ONSITE Intervention was removed. A question has been added, reading as follows: **TREATMENT/REHABILITATION: How frequently do you deliver any of the following services at your practice and/or at the employee's worksite?** Services are listed with the term “at clinic/practice” and/or “at workplace” in order to distinguish whether the service was provided “onsite” or “offsite”. As an example work conditioning is listed as follows:

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
				• Work conditioning (Strength Training) **at clinic/practice.** • Work conditioning (strength Training) **at employee's workplace.** The term "**Clinic/Practice/Organisation**" is listed next to the following terms: • Vocational Counselling • Supported employment • Job Coaching and Support
21.	2.2.1a – k 2.2.2a – i.	Treatment/Intervention services listed were as follows: OFF-SITE INTERVENTION • Work conditioning • Work hardening • Exercise programme • Job modification/accommodation • Pain management • Rehabilitation Case Management • Vocational counseling • Vocational Rehabilitation Skills training/Development • Supported employment • Social entrepreneurship • Other rehabilitation services SPECIFIC ONSITE SERVICE DELIVERY • Body mechanics/ Back saving principles programmes • Wellness/fitness programmes • Joint protection/energy conservation programmes • Functional capacity evaluation • Treatment of acute injuries • Pre-employment screening • Pain management	16.	The following terms in the list of services were reviewed: • The term ***"Strength Training"*** are indicated next to work conditioning. • The term ***"Work specific rehabilitation"*** are indicated next to the work hardening. Services added to the list of interventions are as follows: • **Job coaching and Support** Instead of using the term "social entrepreneurship" the term "**entrepreneurship**" is used.

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
		• Symptom surveys/discomfort screenings • Re-integration into work		
	Prevention/Education/Training			
22.	2.2.3 a-h	Services listed under the sub heading "**Prevention/Education/Training**" are as follows: • Ergonomics • Body Mechanics/Back School • Cumulative trauma Clinic • Wellness/Fitness programmes • Joint protection/Conservation • Stress management • Nutrition • Other prevention/Education/Training services	17.	Services added to "Prevention/Education/Training are as follows: • **Disability Awareness Training** The item "other prevention/education/training services" were amended to read only as "other". Instead an additional question has been listed to provide the participant the opportunity to list additional services as indicated in section 18 (phrased below).
23.	2.2.3 h	An additional question at the bottom of the grid titled "Prevention/Education/training" read as follows: "Other work practice services (if other services are delivered other than the above, briefly describe what the service entails".	18. & 19.	The phrasing of the question has been reviewed to read as follows: ***"If you have selected "other" services, please list which additional services you offer related to work practice and which focuses on prevention/education/training. If this is not relevant to you, type "not applicable' in order to move to the next question."*** An additional question has been included to allow the participant to list other work practice services not included in the services already listed. The sentence reads as follows: ***"If you offer other work practice services, other than the services listed under section 15, 16 and 17, briefly list and describe what these services entail. If this is not relevant to you, type "not applicable' in order to move to the next question.***

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
FOLLOW UP SERVICES				
	Type of follow up			
24.	3.1a - f	Follow up services are listed as follows: • Telephone • Face to face with employee at clinic/practice • Face to face with employee at the workplace • Face to face with employee at home • Telephone liaison with employer • Telephone liaison with relatives	20.	Items listed under the heading "Type of Follow up" are listed as follows: • Telephone (Employee) • Telephone (Relative) Telephone (employer) • Face to Face (at clinic/practice) • Face to Face (at place of work) • Face to Face (at employee's home) • Other An additional question has been included after the grid, to allow the participant to list other follow up services. The question is phrased as follows: **"If you have selected "other" please indicate who else is contacted as part of your follow up service? Also specify if contact with the party is established by telephone or face to face. If this is not relevant to you, type "not applicable' in order to move to the next question."**
	Frequency of follow up			
25.	3.2	The question reads as follows: "How frequently does follow up occur? (Please ensure that every box is selected. If follow up is not applicable in your context, ensure that you select 'never'.	22.	The question has been rephrased to read as follows: ***"FREQUENCY OF FOLLOW-UP: How frequently does follow-up occur following the initial intervention?"***
OUTCOMES				
	Rehabilitation Specific Outcomes			
26.	4. a - c	The heading Outcomes are subdivided into Rehabilitation specific outcomes, Employee specific outcomes and Employer specific outcomes.	23. 24. 25.	The sub heading "Rehabilitation specific outcomes" has been changed to **"Intervention".** The question has been rephrased to read as follows under each sub heading:

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
		The question are phrased as follows: How strongly do you focus on the following work practice outcomes, if any?		**INTERVENTION: How strongly do you focus on the following work practice outcomes, whether it is by monitoring it directly or indirectly.** **EMPLOYEE SPECIFIC OUTCOMES: How strong is your focus on the following work practice services aimed specifically at the employee?** **EMPLOYER SPECIFIC OUTCOMES: How strongly do you focus on any of the following outcomes, specific to the employer?**
	Employee specific outcomes			
27.	4.c - g	Services listed under employee specific outcomes include the following: • Return to same employer, same job role • Return to same employment and same job role but with accommodations • Return to same employment, but different job role • Return to different employer, same job role • Return to different employer, but performing an alternative job role	24.	The following outcome has been added to the items already listed under employee specific outcomes: • **Successful job placement**
EVIDENCE-BASED PRACTICE				
28.	5.	The question read as follows: How often do you refer to one of the following modes as part of evidence-based practice?	26.	The question is rephrased to read as follows: ***"How often do you refer to one of the following to inform your work practice service delivery?"***
29.	5.a - h	The following services are listed: • Search and review specific research literature • Attending journal clubs • Attending interest groups • Utilize a mentor system for guidance of evidence based practice Liaising with a specialist in the field • Attending Specialist courses (locally)	26.	The term "workshops" has been added to the following evidenced based practices: • Attending specialist courses/**workshops** (locally) • Attending specialist courses/**workshops** (internationally)

ORIGINAL ITEM/QUESTION/SCALE			AMENDMENT	
INTRODUCTION				
	Original Number		**Current Number**	
		• Attending specialist courses (Internationally) • Pursuing postgraduate studies		

APPENDIX E: PILOT RESPONSES

Occupational therapist	Registered with HPCSA	Working in field of work practice (Yes/No)	Initial email sent requesting participation in pilot	Consent received from OT to participate in study	Additional Informative email sent providing background to study	Actual survey instrument sent with email and information sheet	Feedback received from participant	Estimated time to complete survey	Feedback obtained
Participant 1	Yes	No	10.02.2014	10.02.2014	20.02.2014	21.02.2014	24.02.2014	10 minutes	No amendments required. The fact that the survey prompts you to return to questions not answered is helpful.
Participant 2	Yes	No	10.02.2014	20.02.2014	20.02.2014	21.02.2014	24.02.2014	20 minutes	No amendments required. Easy to follow.
Participant 3	Yes	No	10.02.2014	12.02.2014	20.02.2014	21.02.2014	25.02.2014	15 minutes	Survey was easy to follow. Suggested questions to be highlighted in bold. Although the respondent found the scale user friendly, she proposed using a scale involving a choice of three, rather than five options.
Participant 4	Yes	No	10.02.2014	12.02.2014	20.02.2014	21.02.2014	24.02.2014	13 minutes	No amendments required. Indicated that she had to type out "not applicable" and not "n/a" in order to move to the next question.
Participant 5	Yes	No	10.02.2014	24.02.2014	20.02.2014	21.02.2014	24.02.2014	20 minutes	No additional amendments required.

APPENDIX F: FINAL SURVEY TOOL

Participating in a study on the Practice Profile of Occupational Therapists delivering work practice services in South Africa

Thank you for considering participating in the study. Note that occupational therapists currently delivering any, several or all of the work practice services listed in the email are eligible to participate in the study. The survey should be submitted no later than 4 April 2014. Please ensure that you complete questions independently and based on your own experience. Do not complete the survey more than once.

* Required

CONSENT * When proceeding with this study, I confirm that I have read the information provided about the study and I understand that there are no known risks to participate in the study. I also understand that I can withdraw at any time.

- ☐ Yes, I herewith provide my consent to participate in the study.
- ☐ No, I do not provide my consent to participate in the study.
- ☐ Yes, I am currently delivering any, several or all of the work practice services listed in the email.
- ☐ No, I don't deliver any of the work practice services listed and therefore cannot participate.

DEMOGRAPHIC INFORMATION

* In which year did you qualify?

* At which university did you qualify as an occupational therapist?

- ☐ University of Limpopo (MEDUNSA Campus)
- ☐ University of KwaZulu-Natal (Westville Campus)
- ☐ University of Cape Town
- ☐ University of the Free State
- ☐ University of Pretoria
- ☐ University of Stellenbosch (Tygerberg Campus)
- ☐ University of Western Cape
- ☐ University of Witwatersrand
- ☐ Other

If you have selected "other", please indicate the name of the institution where you qualified. If you did not select "other", please type "not applicable" in the space provided and move to the next question.

* How many years of experience do you have in the work practice field?

* Do you hold a postgraduate qualification relevant to the field of work practice?

- ☐ Yes
- ☐ No

* If your answer is yes to the previous question, please state the name of the postgraduate qualification. If not relevant to you, type "not applicable" in order to move to the next question.

* If you hold a postgraduate qualification relevant to work practice, state the name of the institution where you obtained your qualification. If you don't hold a postgraduate qualification, type "not applicable" in order to move to the next question.

* Have you attended specialist continuing development training courses in the field of work practice?

☐ Yes

☐ No

* If yes, please prioritise the three most influential continuing professional development courses that you have attended, relevant to the field of work practice. If you selected no in the previous question, type not applicable in the space below.

* Please indicate your gender by selecting the relevant box.

☐ Male

☐ Female

PRACTICE SETTING * A list of practice settings have been provided below. If you have worked in any of these settings in the past 12 months, please select how frequently you worked in the following settings on a weekly basis.

	All of the time	Often	Sometimes	Rarely	Never
General Hospital setting (Private Sector)	☐	☐	☐	☐	☐
General Hospital Setting (Public Sector)	☐	☐	☐	☐	☐
Specialised Rehabilitation (Private Sector)	☐	☐	☐	☐	☐
Specialised Rehabilitation (Public Sector)	☐	☐	☐	☐	☐
Work rehabilitation (Private Sector)	☐	☐	☐	☐	☐
Work rehabilitation (Public Sector)	☐	☐	☐	☐	☐
Vocational evaluation unit (Private Sector)	☐	☐	☐	☐	☐
Vocational evaluation unit (Public Sector)	☐	☐	☐	☐	☐
Corporate Company (e.g. Insurance provider, banking service, etc.)	☐	☐	☐	☐	☐
Non-Government Organisation	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

* If you have selected "other" in the grid above, please state the type of practice setting(s) that you deliver work practice services. If not relevant to you, please type "not applicable" in order to move onto the next question.

TYPE OF INTERVENTION(S)

* How strongly are the focus of your work practice service on the following interventions?

	Very Strong Focus	Strong Focus	Moderate Focus	Occasional Focus	No focus
Once-off Evaluation	☐	☐	☐	☐	☐
Consulting (via telephone)	☐	☐	☐	☐	☐
Consulting (face to face with one person)	☐	☐	☐	☐	☐
Consulting (face to face with a group)	☐	☐	☐	☐	☐
Evaluation and Rehabilitation at clinic/practice (Individual)	☐	☐	☐	☐	☐
Evaluation and Rehabilitation at clinic/practice (Group)	☐	☐	☐	☐	☐
Worksite intervention (once off evaluation with individual)	☐	☐	☐	☐	☐
Worksite intervention (once off evaluation with a group)	☐	☐	☐	☐	☐
Worksite intervention (once off evaluation with follow up sessions at the workplace involving one person only)	☐	☐	☐	☐	☐
Worksite intervention (once off evaluation with follow up sessions at the workplace involving a group)	☐	☐	☐	☐	☐
Education and Training of Individual (E.g. Staff, Relative, Community member)	☐	☐	☐	☐	☐
Education and Training of Group (E.g. Staff, Relative, Community Member)	☐	☐	☐	☐	☐
Work Claims Assessment	☐	☐	☐	☐	☐
Ergonomic intervention	☐	☐	☐	☐	☐
Program development for improving ability to work	☐	☐	☐	☐	☐
Quality Assurance of Work Programs	☐	☐	☐	☐	☐

* If you focus on other intervention services related to work practice not indicated above, please list additional services and indicate what this entails. Please type "not applicable" if this question is not relevant to you.

SERVICES

* EVALUATION: How frequently do you deliver any of the following evaluation services per month?

	All of the time	Often	Sometimes	Rarely	Never
Functional Capacity Evaluation	☐	☐	☐	☐	☐
Job Analysis assessment/Worksite Assessment (Directly)	☐	☐	☐	☐	☐
Job Analysis assessment/Worksite Assessment (Indirectly)	☐	☐	☐	☐	☐
Risk/Hazard Analysis (Directly)	☐	☐	☐	☐	☐
Risk/Hazard Analysis (Indirectly)	☐	☐	☐	☐	☐
Pre-vocational skills assessment (Directly)	☐	☐	☐	☐	☐
Pre-vocational skills assessment (Indirectly)	☐	☐	☐	☐	☐
Vocational skills evaluation (Directly)	☐	☐	☐	☐	☐
Vocational skills evaluation (Indirectly)	☐	☐	☐	☐	☐
Pre-employment evaluation (Directly)	☐	☐	☐	☐	☐
Pre-employment evaluation (Indirectly)	☐	☐	☐	☐	☐
Ergonomic Evaluation	☐	☐	☐	☐	☐
Supported Employment (Directly)	☐	☐	☐	☐	☐
Supported Employment (Indirectly)	☐	☐	☐	☐	☐

* TREATMENT/REHABILITATION: How frequently do you deliver any of the following services at your practice and/or at the employee's worksite per month?

	All of the time	Often	Sometimes	Rarely	Never
Work Conditioning (strength training) at clinic/practice	☐	☐	☐	☐	☐
Work Conditioning (strength training) at employee's workplace	☐	☐	☐	☐	☐
Work hardening (work specific rehabilitation) at clinic/practice	☐	☐	☐	☐	☐
Work Hardening (work specific rehabilitation) at employee's workplace	☐	☐	☐	☐	☐
Exercise Programme at clinic/practice	☐	☐	☐	☐	☐
Exercise Programme at employee's workplace	☐	☐	☐	☐	☐
Job modification/ Accommodation at clinic/practice	☐	☐	☐	☐	☐
Job Modification/ Accommodation at	☐	☐	☐	☐	☐

	All of the time	Often	Sometimes	Rarely	Never
employee's workplace					
Pain Management at clinic/practice	☐	☐	☐	☐	☐
Pain Management at employee's workplace	☐	☐	☐	☐	☐
Rehabilitation Case Management (Clinic/Practice/ Company)	☐	☐	☐	☐	☐
Rehabilitation Case Management at employee's place of work	☐	☐	☐	☐	☐
Vocational Counselling (Clinic/Practice/ Organisation)	☐	☐	☐	☐	☐
Vocational Counselling at employee's place of work	☐	☐	☐	☐	☐
Supported employment (Clinic/Practice/ Organisation)	☐	☐	☐	☐	☐
Supported Employment at employee's place of work)	☐	☐	☐	☐	☐
Job Coaching and Support (Clinic/Practice/ Organisation)	☐	☐	☐	☐	☐
Job Coaching and Support at employee's place of work	☐	☐	☐	☐	☐
Body Mechanics/Back saving principles (Clinic/Practice)	☐	☐	☐	☐	☐
Body mechanics/Back saving principles at employee's place of work	☐	☐	☐	☐	☐
Wellness/Fitness programmes (Clinic/Practice)	☐	☐	☐	☐	☐
Wellness/Fitness Programmes at employee's place of work	☐	☐	☐	☐	☐
Joint protection/energy conservation programmes (Clinic/Practice)	☐	☐	☐	☐	☐
Joint protection/energy conservation programmes at employee's place of work	☐	☐	☐	☐	☐
Pre-employment screening (Clinic/Practice)	☐	☐	☐	☐	☐

	All of the time	Often	Sometimes	Rarely	Never
Pre-employment screening at employer's workplace	☐	☐	☐	☐	☐
Symptom surveys/discomfort screenings (Clinic/Practice)	☐	☐	☐	☐	☐
Symptom surveys/discomfort screenings at place of work	☐	☐	☐	☐	☐
Re-integration into work (Clinic/Practice)	☐	☐	☐	☐	☐
Re-integration into work at employee's place of work	☐	☐	☐	☐	☐
Entrepreneurship	☐	☐	☐	☐	☐

* PREVENTION/EDUCATION/TRAINING: How frequently do you deliver any of the following services each month?

	All of the time	Often	Sometimes	Rarely	Never
Ergonomics	☐	☐	☐	☐	☐
Disability Awareness Training	☐	☐	☐	☐	☐
Body Mechanics/Back School	☐	☐	☐	☐	☐
Repetitive Strain Clinic	☐	☐	☐	☐	☐
Wellness/Fitness Programmes	☐	☐	☐	☐	☐
Joint Protection/Conservation	☐	☐	☐	☐	☐
Stress Management	☐	☐	☐	☐	☐
Nutritional advice	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

* If you have selected "other" (prevention/education/training) services, please list which additional services you offer related to work practice. If this is not relevant to you, type "not applicable" in order to move to the next question.

* If you offer other work practice services, other than the services listed under section 4.1, 4.2 and 4.3, briefly list and describe what these services entail. If this is not relevant to you, type "not applicable" in order to move to the next question.

FOLLOW UP SERVICES

* TYPE OF FOLLOW UP: Indicate how frequently you deliver any of the following FOLLOW UP services?

	Always	Often	Sometimes	Rarely	Never
Telephone (Employee)	☐	☐	☐	☐	☐
Telephone (Relative)	☐	☐	☐	☐	☐
Telephone (Employer)	☐	☐	☐	☐	☐
Face to Face (At Clinic/Practice)	☐	☐	☐	☐	☐
Face to Face (at place of work)	☐	☐	☐	☐	☐
Face to Face (at employee's home)	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐

* If you have selected "other", please indicate who else is contacted as part of your follow up service? Also specify if contact with the party is established by telephone or face to face. If this is not relevant to you, type "not applicable" in order to move to the next question.

* **FREQUENCY OF FOLLOW UP**: How frequently does follow up occur following the initial intervention?

	Almost always	Frequently	Sometimes	Occasionally	Hardly ever
Weekly	☐	☐	☐	☐	☐
Monthly	☐	☐	☐	☐	☐
Once every 3 months	☐	☐	☐	☐	☐
Once in 3 to 6 months	☐	☐	☐	☐	☐
Once in 6 to 12 months	☐	☐	☐	☐	☐

OUTCOMES

* INTERVENTION: How strongly do you focus on the following work practice outcomes, whether it is by monitoring it directly or indirectly.

	Very strong focus	Strong focus	Moderate focus	Occasional focus	No focus
Improvement of abilities	☐	☐	☐	☐	☐
Improvement of quality of life	☐	☐	☐	☐	☐
Improvement of coping strategies/self-management strategies	☐	☐	☐	☐	☐

* **EMPLOYEE SPECIFIC OUTCOMES**: How strong is your focus on the following work practice services aimed specifically at the EMPLOYEE?

	Very strong focus	Strong focus	Moderate focus	Occasional focus	No focus
Return to the same employer, same job role	☐	☐	☐	☐	☐
Return to the same employment and same job role, but with accommodations	☐	☐	☐	☐	☐
Return to same employer, but	☐	☐	☐	☐	☐

	Very strong focus	Strong focus	Moderate focus	Occasional focus	No focus
different job role					
Return to different employer, but same job role	☐	☐	☐	☐	☐
Return to different employer, performing an alternative job role	☐	☐	☐	☐	☐
Successful job placement	☐	☐	☐	☐	☐

* **EMPLOYER SPECIFIC OUTCOMES**: How strongly do you focus on any of the following outcomes, specific to the EMPLOYER?

	Very strong focus	Strong focus	Moderate focus	Occasional focus	• Never
Reducing the risk of injury at the workplace	☐	☐	☐	☐	☐
Improving awareness of the application of ergonomic principles at work	☐	☐	☐	☐	☐
Reducing sick absence	☐	☐	☐	☐	☐
Improving employee productivity at work	☐	☐	☐	☐	☐
Improving job retention in a specific role	☐	☐	☐	☐	☐

EVIDENCE BASED PRACTICE * How often do you refer to one of the following to inform your work practice service delivery?

	All of the time	Often	Sometimes	Rarely	• Never
Search and review specific research literature	☐	☐	☐	☐	☐
Attending journal clubs	☐	☐	☐	☐	☐
Attending interest groups	☐	☐	☐	☐	☐
Utilise a mentor system for guidance of evidence based practice	☐	☐	☐	☐	☐
Liaising with a specialist in the field of work practice	☐	☐	☐	☐	☐
Attending specialist courses/workshops (Locally)	☐	☐	☐	☐	☐
Attending specialist courses/workshops (Internationally)	☐	☐	☐	☐	☐
Pursuing postgraduate studies	☐	☐	☐	☐	☐

APPENDIX G: INTRODUCTION LETTER

27 February 2014

PARTICIPATION IN A RESEARCH STUDY ON THE PRACTICE PROFILE OF OCCUPATIONAL THERAPISTS DELIVERING WORK PRACTICE SERVICES IN SOUTH AFRICA

I am an Occupational Therapist in the process of completing my MSc in Occupational Therapy at the University of Cape Town.

The aim of my research study is to investigate the practice profile of occupational therapists (OTs) delivering services within the **work practice field** in South Africa. The reason being is that our role has expanded significantly in the past decade. In order to ensure the further development of this field, it is prudent to obtain a better understanding of the typical profile of occupational therapists delivering work practice services at present in order to better understand where short comings exist, how outcomes are measured for the promotion of services and how evidence based approaches are used to inform service delivery.

By better understanding the foregoing, work practice services can be further improved by encouraging key stake holder involvement, facilitating potential cross sector collaboration where necessary and identify areas requiring further research and development as the field continues to expand.

The research uses a survey, which will be distributed electronically by means of the Google survey Instrument. Completion of the survey should take no more than 15 - 20 minutes of your time. The survey needs to be completed and submitted by **4 April 2014 at the very latest**. Completed surveys will be saved in a secure password protected location.

Participation in this study is voluntary and you are under no obligation to complete the survey. There is no remuneration for participating and no direct benefit for taking part in the study. Completion and submission of the survey, implies that you have provided your consent to participate. There are no known risks involved and you may withdraw from the study at any point in time without any penalty.

Surveys will be returned to one contact point to ensure confidentiality of information. The survey is anonymous as no personal information is requested. Mailing addresses will solely be used for the purpose of this study. Study results will be made available via the mailing list and primary distribution channels used once it has been analysed. After results have been disseminated, the email list will be deleted and will not be shared with any parties.

Should you have any questions relating to the study, please contact me by phone (079 619 8353) or email (dorita@themaat.co.za).

My **supervisors**, Dr Helen Buchanan can be reached at the Division of Occupational Therapy, University of Cape Town (Tel: 021 406 6401 or email: helen.buchanan@uct.ac.za)

Any ethical queries relating to the study should be directed to the **Chair of the University of Cape Town Faculty of Health Sciences Human Research Ethics Committee**, Professor Marc Blockman whom can be contacted on 021 406 6338 or by email at marc.blockman@uct.ac.za.

Dorita Ver Loren van Themaat
Occupational Therapist
Tel: 079 619 8353
Email: Dorita@themaat.co.za
Fax: 0866507399

APPENDIX H: ETHICS APPROVAL

UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee

Room E52-24 Old Main Building
Groote Schuur Hospital
Observatory 7925
Telephone [021] 406 6338 • **Facsimile** [021] 406 6411
Email: shuretta.thomas@uct.ac.za
Website: www.health.uct.ac.za/research/humanethics/forms

09 December 2013

HREC REF: 746/2013

Dr H Buchanan & Ms E Du Plooy
Health & Rehab
F-Floor, OMB

Dear Dr Buchanan & Ms Du Plooy

PROJECT TITLE: THE PRACTICE PROFILE OF OCCUPATIONAL THERAPISTS DELIVERING WORK PRACTICE SERVICES IN SOUTH AFRICA

Thank you for submitting your study to the Faculty of Health Sciences Human Research Ethics Committee for review.

It is a pleasure to inform you that the HREC has **formally approved** the above-mentioned study. We acknowledge that the student Ms Dorita Ver Loren van Themaat is also involved on this project.

Approval is granted for one year until the 30th December 2014

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period. (Forms can be found on our website: www.health.uct.ac.za/research/humanethics/forms)

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the HREC reference no in all your correspondence.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN ETHICS
Federal Wide Assurance Number: FWA00001637.
Institutional Review Board (IRB) number: IRB00001938
This serves to confirm that the University of Cape Town Human Research Ethics Committee complies to the Ethics Standards for Clinical Research with a new drug in patients, based on the Medical Research Council (MRC-SA), Food and Drug Administration (FDA-USA), International Convention on Harmonisation Good Clinical Practice (ICH GCP) and Declaration of Helsinki guidelines.
The Human Research Ethics Committee granting this approval is in compliance with the ICH Harmonised Tripartite Guidelines E6: Note for Guidance on Good Clinical Practice (CPMP/ICH/135/95) and FDA Code Federal Regulation Part 50, 56 and 312.